THE INFLUENCING FACTORS OF CUSTOMER RELATIONSHIP MANAGEMENT PERFORMANCE IN MALAYSIAN ELECTRONIC BANKING

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UNIVERSITI UTARA MALAYSIA

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By

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ABSTRAK

Pengurusan Perhubungan Pelanggan ditakrifkan sebagai stretegi mewujudkan nilai pelanggan oleh pembekal perkhidmatan bagi tujuan mewujudkan kesetiaan mereka. Pengukuran prestasi perhubungan pelanggan dibuat dari perspektif tingkahlaku pelanggan seperti kepuasan pelanggan, niat untuk membeli semula, kesetiaan terhadap jenama serta penyebaran maklumat positif mengeni perkhidmatan.

Kajian ini mengenalpasti tahap prestasi pengurusan perhubungan pelanggan pada pandangan pengguna perbankan elektronik. Kajian ini juga melihat pengaruh faktor pelanggan, faktor teknologi dan faktor proses ke atas prestasi pengurusan perhubungan pelanggan. Sejumlah 307 orang pensyarah universiti terlibat secara sukarela untuk menyiapkan borang soal selidik yang diedarkan. Kajian ini mendapati tahap pretasi perhubungan pelanggan dalam perkhidmatan perbankan elektronik berada pada tahap yang memuaskan. Tiga penentu utama prestasi pengurusan perhubungan pelanggan ialah kepercayaan, kebolehgunaan, dan tanggapan nilai ekonomi. Kesemua fakor diuji mempunyai perhubungan yang signifikon terhadap prestasi pengurusan perhubungan pelanggan. Kajian ini diakhiri dengan cadangan-cadangan yang membina kepada industri perbankan, disamping memaparkan beberapa cadangan untuk pertimbangan industri, serta batasan-batasan dalam kajian serta cadangan untuk pertimbangan penyelidikan akan datang.

ABSTRACT

Customer relationship management is defined as the strategies taken by the service providers to create value in their service to retain customers. The main dimensions of customer relationship management performance are developed from the behavior-based perspective such as customer satisfaction; repurchase intention, loyalty toward the brand and positive word of mouth. In this manner, CRM performance refers to the success of service providers to satisfy their customers, retain them, increase their loyalty and create positive word of mouth among them.

This study examined the level of customer relationship management performance from electronic banking customers. This study also investigated the influence of customer factors, technology factors and business process factors on customer relationship management performance. A total of 307 university lecturers are involved in this study by voluntarily completing the survey questionnaires. The study results indicate that the level of customer relationship management performance is high among the electronic banking customers. Three major Influence factors i.e. perceived trust, usefulness and perceived economic value were found to have significant influence on customer relationship management performance. This research ends with the suggestion for the industry, discusses the limitation of the study and gives some suggestion for future research.

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This chapter provides an overview of the study background, problem statement, objectives of the study, research questions and definition of the key terms used in this study. These are followed with discussion on the contribution of this study. Finally, this chapter ends with an exposition of the organization of the remaining chapters.

1.2 THE REVOLUTION OF ELECTRONIC BANKING SERVICES IN MALAYSIA

The electronic revolution in the Malaysian banking sector started in the 1970's (Pang, 1995). The first visible form of electronic innovation in the Malaysian banking industry was the introduction of Automated Teller Machines (ATMs) in 1981. The ATMs to a large extent released banks from the constraints of time and geographical location. They presented banks with a more economical substitute for brick and mortar branches.

Then in the early 1990's tele-banking was introduced in Malaysia, which provided another delivery channel for branch financial services via telecommunications devices connected to an automated system of the bank through Automated Voice Response (AVR) Technology.

Advances in telecommunications and information technology culminated when banks offering their services through personal computers located at the customer's premises through the use of Intranet proprietary software. However, it is interesting to note that PC-banking or desktop banking was mainly popular among banks' corporate customers rather than their retail customers.

Finally, on June 1, 2000, the Malaysian Central Bank gave the green light for locally owned commercial banks to offer Internet banking services. On June 15, 2000, Maybank, the largest domestic bank in terms of assets as well as network distribution which commands its own portal became the first bank to offer Internet banking services in Malaysia. This service is currently provided to individual customers of the bank and the latest 128-bit encryption technology was introduced to allay fears of security among consumers. The services provided in this portal includes banking enquiry functions, bill payment, credit card payment, funds transfer, and accounts summary as well as transaction history. Customer support service is provided via e-mails as well as via telephone lines and is available daily from 6 am to 12 mid-nights.

Subsequently, the Hong Leong Bank commenced its Internet banking operations known as 'ec-banking' which can be accessed via their web-site in December 2000. In addition to providing services that were previously included in their Phone banking service, Hong Leong Bank also offer customers the options of assessing account transaction history using 'ec-banking'. Ec-banking also provides support services via e-mails and telephones from 7 am to 11.00 pm, seven days a week.

Another domestic bank, which has also introduced Internet banking is the Southern Bank. It currently provides all the services, which are offered by Maybank and Hong Leong Bank. An additional feature that is available in the Southern Bank's website is the Personal Preference Setting option for the customers. However, no indication of online support was found at this site.

A review of the Malaysian banking sites in the Internet revealed that all domestic banks, which have been accorded an anchor bank status by the central bank, have a web presence. However, apart from the banks with transactional sites, most of the banks are yet to commence their internet banking operations, but nevertheless display informational sites.

Now, in a world that is becoming increasingly open as a result of the Internet and the World Wide Web (WWW), Internet banking has been gaining ground around the globe. This offers banking institutions a new frontier of opportunities and challenges further augmenting competition in the global banking market. Thus, in order to get a share of the opportunities and to face the new challenges, the Malaysian government provided the legal framework for domestic banks to offer Internet banking services as of June 1, 2000.

Despite the encouragement from the government, the success of this new distribution channel for banking products and services depends greatly on the rate at which the new technology is adopted by the Malaysian consumers both retail and corporate alike. Thus, the factors that affect the adoption of Internet banking in Malaysia will certainly be of concern to both bankers and policy makers. It is for this reason that this study is undertaken.

1.3 BACKGROUND OF THE STUDY

In 2003, the Governor of Malaysian Central Bank launched a campaign for Malaysian bank customers to move their ways of banking transaction from traditional way to electronic banking services. Despite the aggressive effort made by the bank and government to encourage electronic banking service, the acceptance level of Malaysian towards this kind of service is disappointing (Sohail & Shanmugham, 2003).

Table 1.1

Level of Internet Access in Malaysia for 2008

State	Percentage (%)
Kelantan	0.8
Sabah & Labuan	2.6
Terengganu	1.1
Pahang	1.7
Kedah	3.1
Perlis	0.5
Perak	5.3
Negeri Sembilan	2.6
Sarawak	7.2
Johor	11.2
Melaka	3.2
Pulau Pinang	10.5
Selangor	26.3
Kuala Lumpur	23.9
Total	100.0

Source: Household use of the Internet Survey, Malaysian Communications and Multimedia Commission, 2008

Table 1.1 above shows the level of internet access in Malaysia for the year 2008. It shows that 50% of the subscribers are in Klang Valley. If we are to consider the population distribution in Malaysia, the disparity should be even more glaring. The lower internet access among the Malaysian and inconsistent subscription within the

region similarly affect the digital divide and computer literacy among the regions. Generally, this is another issue that might explain why study on the adoption of E-banking services in Malaysia is crucial to be undertaken.

Previous research on Internet banking in Malaysia found that attitude is one of the factors that influence customer's decision to accept Internet banking services (Ndubisi & Sinti, 2006). So far the effectiveness of campaign through the association of Banks in Malaysia towards the adoption of electronic banking still is being questionable. The security and privacy issues like card clone, identity theft, stealing identities for fraudulent use, are a reality that all customers should take serious cognizance of (Granova & Eloff, 2004). As a result, these issues indirectly give a negative impact on the adoption of electronic banking services in Malaysia.

A current criticism among bank customers is on the ability of banks to implement a successful relational approach; many financial institutions have failed to view the relational approach as a strategic issue (Perrien et al., 1992). It is necessary to have good relationship strategies to be implemented by the banks towards their customers besides offering a variety of valuable services. Between the service provider and the service user an emotional bond also develops creating the need to maintain and enhance the relationship (Parvatiyar & Sheth, 2001). Lewis's (1991) survey work shows that approximately a quarter of UK bank users had switched banks in the previous five-year period, with the main reasons being "unhelpful staff, high bank charges and slow service". Furthermore, Chen and Hitt (2002) explore that online consumers' system usage, and the breadth and quality of

alternative online service providers were important in expecting switching behaviour. While the economic issue is highly stressed, slow and unhelpful staffs within the branch network were important contributory factors, which helped create greater distance between bank and customer (Perrien et al., 1992). Furthermore, conducting banking transaction online frequently highlights problems such as identity theft, off-line problems, and hacking issues, all of which make the customers feel inconvenient with the services (Granova & Eloff, 2004).

The root for implementing relational strategies by the firm comes from the philosophy of relationship marketing (Egan, 2004). An effective weapon for improving both relationship quality and beneficiaries' satisfaction with service provision is represented by relationship marketing (Bennett & Barkensjo, 2005). Shani and Chalasani (1992) have defined relationship marketing as "an integrated effort to identify, maintain, and build up a network with individual consumers and to continuously strengthen the network for the mutual benefit of both sides, through interactive, individualized and value-added contacts over a long period of time" (p.32). In this context, a good customer relationship will guarantee that customers benefit from network strengthening. According to Chen and Ching (2004), customer benefits comprise social, psychological, economic and customized benefits. Social benefit is referred to what extent the services can facilitate a social network for customers; psychological benefits is referred to emotional benefits that attached in the services ; economic benefits referred to how much the service can minimized their cost; and customized benefits is referred to the extent of service providers can gives a quick responses to customer complaints. Despite this call, how much

attention is given by banks towards providing such benefits to their customers are still questionable? Due to the importance of customer relationship, banks must fully understand what the customers want and hence offer both customer and organizational benefits towards their clients. Both beneficiaries are main contributors for the performance of customer relationship management (Chen & Ching, 2004), however the present study only focus on customer beneficiaries they grabs from the service offered to them.

In the marketing literature, the term customer relationship management and relationship marketing are used interchangeably (Parvatiyar & Sheth, 2001). Customer Relationship Management has its roots in relationship marketing which is based on the formative work by Berry (1983), Christopher et al., (1991), Ford (1990) and Ryals and Knox (2001). Due to the limitations of relationship marketing, it has been disguised by customer relationship management (Egan, 2004). Buttle (2000) argues that customer relationship management (CRM) is becoming a standard terminology, replacing what is widely perceived to be a misleadingly narrow term, relationship marketing (RM). Furthermore, Zineldin and Jonsson (2000) stress the lack of clarity in the literature over the meaning of relationship marketing and especially in the era's of technological advances. Therefore customer relationship management is more meaningful concept to use because it involves technological tools and covers a wider scope of relationship.

Conceptually, customer relationship management is a comprehensive strategy and is a process of acquiring, retaining, and partnering with selective customers to create superior value for the company and the customer (Parvatiyar &

Sheth, 2001). It involves the integration of marketing, sales, customer service, and the supply-chain functions of the organization to achieve greater efficiencies and effectiveness in delivering customer value. Improved service provision, combined with the right mix of human input and technology, will retain customers in the longer term (Curry & Penman, 2004). Basically, CRM uses IT to gather data, which can then be used to develop information required to create a more personal interaction with customer (Bose, 2002).

According to Wang et al. (2004), customer relationship management performance refers to the success of the firms in retaining customers, which results in repurchase decision and word of mouth among the customers towards the services offered to them. Besides a tremendous amount of confusion regarding its domain and meaning, periodic assessment of results in customer relationship management is needed to evaluate if the programs are meeting expectations and if they are sustainable in the long run (Parvatiyar & Sheth, 2001). Because of the importance of CRM, studies need to be carried out to examine the influencing factors that contribute to its successfulness and to investigate the impacts of this factors on the organization and CRM performance (Crosby, 2002; Dimitriadis & Stevens, 2008; Parvatiyar & Sheth, 2001).

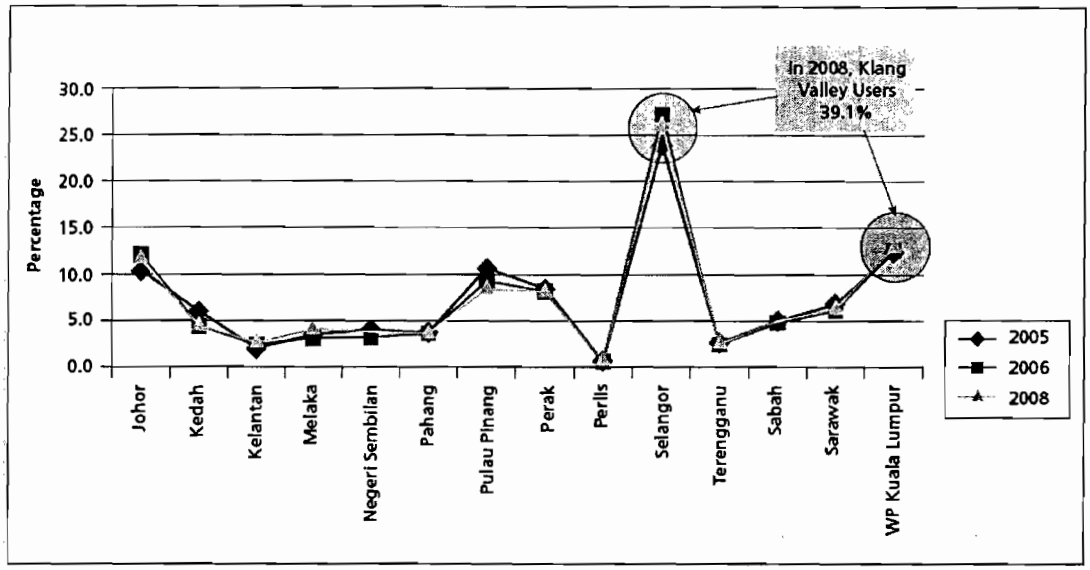
Despite the significance CRM has on organizations, little is known regarding the underlying factors that could improve CRM performance (Chen & Ching, 2004; Dimitriadis & Stevens, 2008; Hsiu, 2007; Parvatiyar & Sheth, 2001; Wang et al., 2004), particularly in the electronic banking service. The existing gap leads many

researchers to suggest for further empirical research in this area (Chen & Ching, 2004; Parvatiyar & Seth, 2001; Wang et al., 2004).

1.4 PROBLEM STATEMENT

The Association of Banks in Malaysia is spearheading a campaign to promote the use of electronic banking in the country. Recently 22 banks including foreign and local bank have launched their electronic banking services all over Malaysia references. Electronic banking services allow customers to transact electronically through the telephone, mobiles, computer, ATMs and other Self-Service Terminals. As a caring and customer oriented organization, banks are continually upgrading these services with new channels and security features to attract customers (ABM report, 2004). However, the issue such as the awareness of banking customer toward online facilities as a preference channel might be in dilemma since it was not fully grab by them. For example the most recent data released by Malaysian Communications and Multimedia Commission (SKMM) 2008, shows that the Klang Valley contributes the highest percentage of users, Selangor registered 27.2 percent while WP Kuala Lumpur 13.0 percent whiles other states shows inconsistent trends of usage. Percentage shares for the other states are shown in the following graph.

Figure 1.1. Percentages of Internet Usage by States



Source: (Suruhanjaya Komunikasi dan Multimedia Malaysia, 2008)

Table 1.2

The Purposes of Online Visits

	Percentage share of household user base		
Internet usage	2005	2006	2007
Getting information	40.5	84.5	94.4
Communications by text	99.6	80.7	84.7
Leisure	47.1	52.7	63.5
Education	46.8	45.9	64.5
Financial activities	14.6	23.6	31.8
Public services	12.7	12.0	29.2
e-Government transactions	-	-	19.8
Online stock trading	-	-	5.9
Others	1.3	0.2	0.7

Source: Suruhanjaya Komunikasi Dan Multimedia Malaysia, 2008

As illustrated in Table 1.2, survey conducted by Suruhanjaya Komunikasi dan Multimedia to determine the purpose of online visits by subscribers discovered that the main purposes of online visits among subscribers were to get information (94.4

percent) and to communicate (84.7 percent). This was followed by education purpose (64.5 percent) and leisure (63.5 percent). Only 31.8 percent used internet for e-banking while 29.2 percent accessed public service website. Only 19.8 percent engaged in e-government transactions and 5.9 percent of users did online stock trading. As internet banking is concerned, with the reported usage of 31.8 percent, it indicates that the usage of internet banking among Malaysian customers is still not encouraging.

The technology innovations bring numerous opportunities to the banking industry. For example OCBC Malaysia decided to take advantage of technology to carve new value-added services for their customers with the implementation of customer relationship management initiative (Yeoh, 2006). Customer relationship management is referred to the strategies taken by the bank to create a customer value that ends with the intent of customer to stay longer, wider and broader relationship with the banking services (Wang et al., 2004). CRM has its roots from relationship marketing. The evolution toward relationship marketing is imperative when there was a trend of change in the enterprise from market orientation towards customer orientation (Khalili, 2005). The continuous interactions between the organizations and their customers become the root for companies to gain competitive advantage (Lang & Colgate, 2003; Fontenot & Hyman, 2004; Gilbert & Choi, 2003; Gruen, 1997; O'Malley & Prothero, 2004; Palmer, 2002; Priluck, 2003; Rashid, 2003; Zablah, Bellenger, & Johnston, 2004).

The CRM approach to marketing has gained much attention in recent years, seeking to establish closer relationships and interactions between a business and its

most important customers (Barnes, 2001; Brown, 2000; Foss & Stone, 2001; Greenberg, 2001; MacKenzie, 2001; Lindgreen & Antioco, 2005). This is why relationship marketing is termed "customer relationship management" when it emphasizes the customer market in particular (Lindgreen& Antioco, 2005).

Due to the drastic changes in the business environment in terms of global market competition, it is imperative that financial institutions revise their marketing strategies and stress long-lasting relationships with customers (Perrien et al., 1992). Furthermore, a study found that relationships are an important criterion in the selection of private bank among the customers (Abratt & Russell, 1999).

With the increasingly intense business competition and the strong trend of globalization, the role of the customer has changed from that of a mere consumer to a multi-faceted role as consumer, co-operator, co-producer, co-creator of value, and co-developer of knowledge and competencies, which implies a much more important position of the customer than ever references. As a result, there has been a substantial increase of interest in creation and delivery of value to customers and the effective management of customer relationship. In particular, firms are seeking to retain existing customers and attract new customers by targeted value creation activities. To do so, an in-depth understanding on the underlying dimensions of value, the practical implications of different performance measures of CRM and knowledge of how to improve each of them become a critical issue to be investigated. To date, most literature on customer relationship management performance has focused on customer behavior-based performance since it is an underlying source of value of current customers of a firm (Day, 1994; Jensen, 2001;

Slater, 1997; Wang et al., 2004). As many researchers have suggested, firms should reorient their operations towards the creation and delivery of superior customer value if they are to improve their CRM performance (Day 1994; Jenson, 2001; Slater, 1997). Little is known however about what is the differentiated role of each dimensions of customer value in influencing different measures of customer relationship management performance. Until now it is still vague which dimensions of customer value contribute most to the customer relationship management performance (Wang et al., 2004).

The increasing individualized customer focus had called organizations to develop a framework to investigate the impact of IT in building customer relationship in establishing their marketing strategies (Peters, 1997). IT in banking may provide some of the foundation for customer-relationship management, but the successful implementation of customer-relationship management requires adequate organizational functioning in a wider sense (Nelson, 2002). However Jayachandran et al. (2005) argue that less attention has been paid to the degree of usage of information technology in the context of CRM. Although Body and Limayen (2004) have conducted a study to explain the relationship between Web site characteristics on CRM and customer loyalty, they only focused on one industry (IT companies) and as such the results cannot be generalize to other industries (e.g., banks and insurance) since financial services are more critical and it involved dollar and cents.

Since customer evaluations of e-services differ from traditional interpersonal services, a separate model for e-services quality is needed (Parasuraman et al.,

2005). However, currently, it seems that research on online quality is more dominating whereas e-service value has received less focus. In particular, there is a lack of focus on determinants of service value, especially for an e-service context (Heinonen, 2006). Furthermore, other issues like security and privacy of the electronic transaction as mentioned above are issues that should be considered in electronic banking services.

Since there are many other factors that might influence CRM performance such as customer value (Day, 1994; Jensen, 2001; Slater, 1997; Wang et al., 2004), customer focus, and company-wide, cross functional and business processes (Chen & Popovich, 2003), it would be useful and practical if they were to be modeled and tested in an integrated framework crossing industries and boundaries (Sin et al., 2005; Wang et al., 2004; Xu et al., 2002). The determinants of CRM also require both theoretical and empirical investigation and it is important to access the firm's degree of CRM as perceived by its customers (Sin et al., 2005). According to Chen and Popovich (2003), a successful model of customer relationship management involves people, technology-integrated and process. Therefore, this research intends to look into the role of people factors, technology factors and process factors as the main influences of CRM performance. Specifically this study examines whether people factor that is customer values, process factors such as electronic service quality, security and privacy, and technology factors such as usefulness and trust influence CRM performance.

Previous studies tended to focus on the impact of customer relationship management on improving customer data (Bose, 2002; Kotorov, 2003; Plessis &

Boon, 2004; Seeman & O'Hara, 2006; Tan et al., 2002; Wells et al., 1999), customer retention and satisfaction (Berger & Bechwati, 2000; Kim et al., 2003; Mithas et al., 2005; Seeman & O'Hara, 2006), customer loyalty (Fitzgibbon & White; 2004; Seeman & O'Hara, 2006; Winer, 2001), and improved customer knowledge (Mithas et al., 2005). However, little systematic effort has been devoted to investigate the impact of customer relationship management performance as part of marketing performance (Blattberg et al, 2001; Rust et al., 2000) such as repeat purchase, retention, and positive word of mouth, which are all considered as features of marketing performance that subsequently represent good customer relationship (Wang et al., 2004).

Customer relationship management uses IT to gather data, which can then be used to develop information required to create a more personal interaction with the customer (Bose, 2002). Therefore, the integration of online technology in electronic banking services makes relationships between banks and their customers more crucial than ever. Not only does the technology bring the opportunity for high technology solutions, it also enables customers to change banks with a simple click of a mouse (Shanmugam & Guru, 2003).

Previous research has confirmed that CRM process enables firms to retain desirable customers by providing core benefits, information exchange and "high-quality" interaction within services (Zablah, 2005). The personalization of online content has been empirically linked to favorable consumer attitudes and behaviors (Karuga et al. 2001; Postma & Brokke 2002; Thorbjornsen et al. 2002; Zablah 2005). In other words, because customer intention to adopt electronic banking

services is represented by their perception of customer relationship management performance that they experience with, it is proposed that the customer decision to adopt electronic banking services by their banks is a result of the performance of customer relationship management.

Hence, the question this research seeks to address is "What are the underlying factors that contribute to customer relationship management performance?"

1.5 RESEARCH QUESTIONS

Based on the research background, this study seeks to address the following research questions:

1. What is the level of customer relationship management performance in Malaysian electronic banking services?
2. To what extent customer value, service process and technological factors influence customer relationship management performance?

1.6 RESEARCH OBJECTIVES

The general purpose of this research is to investigate the factors that influence customer relationship management performance. The specific objectives of this research are:

1. To identify the level of customer relationship management performance in electronic banking services.
2. To investigate the influence of customer value, service process and technological factors on customer relationship management performance.

1.7 DEFINITION OF KEY TERMS

Some important terms appearing repeatedly in this study are briefly defined as follows:

1. Customer relationship management performance is defined as the success of creating value for customers through organization for the objective of increasing the retention, repurchase and word of mouth, customer satisfaction and brand loyalty (Wang et al., 2004).
2. Technology factors refer to the characteristics and features of electronic banking services such as usefulness, ease of use and trust elements in the services. The benefits will come from new forms of customer service, a new distribution channel, new information based product, and productivity improvement (Rai et al., 2002).

3. Business process factors refer to the value customers are going to capture from the usage of e-technology such as online service quality (Parasuraman et al., 2005), online security, online privacy and customer value.
5. Customer value factors are referred to as functional value, emotional value, economic value, and perceived sacrificed on the services (Wang et al., 2004).

1.8 SIGNIFICANCE OF THE STUDY

This study is expected to contribute to the theoretical, methodological and practical use of customer relationship management in electronic banking services.

From the theoretical perspective, the contributions of the present study are as follows:

1. Theoretically, there is limited literature on how customers are actually being retained by organizations (Farquhar, 2004). Recently, banks have established their relationship with customers by upgrading their system in customer data base. With the assistance of customer data based system, online services and customization, the customers' contact through the channels has increased. By integrating other factors other than data base system such as customer value creation, business process and technology advantages in the proposed research model, this research will add to the number of literatures in retention strategies especially in the banking institution that offers electronic banking services for customers.

2. In retaining customers in the banking sector, customer value is an important factor because both parties evaluate the benefits they gain from the bank transaction. While the customers will develop a sense of loyalty as a feedback from the quality services offered by the banks, the banks will maintain close relationship with the customers through customization, updating of their data and repeated communications of their new products. Bick et al. (2004), in his study on the perception and expectations of banking customers regarding the value delivered to them by retail banks in South Africa, concluded that customer value factors are perceived as important in maintaining customer relationship management. However, not much research has been done in Malaysia regarding the impact of value factors on relationship building and maintenance. Because the development in ICT in Malaysia is rapidly growing which provides a good infrastructure for e banking, this research presents a good opportunity to examine the value factor as contributing to CRM performance in Malaysian banks.

3. To date most literature on customer relationship management performance has focused on customer behavior-based performance since it is the underlying source of value of current customers of a firm (Day, 1994; Jensen, 2001; Slater, 1997; Wang et al., 2004). Wang et al. (2004) have suggested choosing intangible benefits of customer instead of tangible benefits which have been previously successfully tested as the dimension for CRM performance. The present research will investigate three dimensions of CRM performance which is retention, word of mouth and loyalty together with customer satisfaction and

brand loyalty as the combination of tangible and intangible benefits for customers representing CRM performance. This dimension is new in measuring the concept, and therefore creates value for this study.

4. Reinartz et al. (2004) indicate that technology plays a role in the successful implementation of CRM. But only a few studies have covered the factors that influence the use of CRM technology (e.g. Avlonitis & Panagopoulos, 2005). Additionally, research is needed to understand whether and how CRM technology capabilities provide a factor for success in CRM (Greve & Albers, 2006).

5. Previous researchers believed that CRM performance should be measured ultimately in terms of customer behaviors (Wang et al., 2004). Therefore, this research will investigate the level of customer relationship management performance of the banks from the customer behavior perspective such as brand loyalty and customer satisfaction.

6. To date a few empirical researches have been conducted in services marketing to comprehensively examine behavioral intentions and its influential factors in the increasingly important online services settings (Hackman et al., 2006). Hence, future research is needed to investigate the factors that influence decision to make purchases over the Internet (George, 2002). Davis (1989) suggested adding other variables to predict behavior intention. Hence security concern and relative price items offered for sales for Web providers are potential variables concerned. Toward this end, the present research attempts to

address this gap by examining the ability of perceived security as one of the influential factors to explain behavioral intentions in the online service context.

From the methodological perspective, the contribution of the present study is as follows:

1. Since there are many factors that might influence CRM performance such as customer value (Day, 1994; Jenson, 2001; Slater, 1997; Wang et al., 2004), customer equity and customer asset (Blattberg et al., 2001; Rust et al., 2000), customer focus, company-wide, cross functional and business processes (Chen & Popovich, 2003), it would be useful and practical if they were to be modeled and tested in an integrated framework crossing industries and boundaries (Sin et al., 2005; Xu et al., 2002; Wang et al., 2004). This research is therefore undertaken in the banking industry in Malaysia that crosses boundaries and companies.

From the practical perspective, the contributions of the present study are as follows:

1. Banks need to organize customers' data to easily differentiate their key customers and prospects and to develop a close and proactive relationship by offering relevant services (Lavender, 2004). Banks hold an extensive amount of data on their customers but struggle to share and use it effectively (Lavender, 2004). This research will investigate relationship development by Malaysian

banks towards electronic banking customers. Practically this research will investigate the extensive use of customer data by Malaysian banks in achieving high customer relationship that supports the creation of customer value from the services offered.

2. Practically, most banks implement CRM in their operation. However there is no action taken so far to understand the effectiveness of CRM among service providers (Mavri and Ioannou, 2008). Therefore, this study will give some knowledge on the effectiveness of the mobile phone service providers in implementing their CRM initiatives from customer behavior perspectives. Additionally, service providers can also understand customer perception on the variety factors that might contribute to CRM performance and enhance customer loyalty towards the services. By realizing this, service providers can take certain action to improve their role in creating more customer value through CRM performance by focus more in customer loyalty.

3. This research framework has chosen three influencing factors of CRM Performance. Practically, the research finding will explain which factors are more important in improving CRM performance especially in electronic services contexts. Based on the findings, government can acknowledge its success of electronic government activities which are in similar environment to electronic banking. In other words, from this study, government can use the information and explore the strategies on how to promote their e-government campaign. As we know, recently our government has intensively moved towards e-government such as e-tax and online summons payment. Hence, this research will assist government in evaluating their performance of CRM in e-government services.

4. Banks also can understand the perception of customers on a variety of technology, customer value, and business process factors in supporting their electronic banking services. By knowing this, they can take certain action to improve their role in creating more value through their electronic banking activities.

1.9 ORGANIZATION OF REMAINING CHAPTERS

This thesis comprises five chapters. The first chapter provides the background of the study, the revolution of electronic banking, the problem statement, research questions objectives of the study, and the potential contributions of the study.

The second chapter focuses on a review of the existing literature related to the variables considered in this study including the concept of customer relationship management performance and its influencing factors. Based on the literature review, this chapter subsequently discusses theoretical framework adopted and hypotheses generated for this study.

The third chapter discusses research methodology. This includes research design, variables measurement, population and sample involved, data collection procedure, questionnaire design and result of pilot test. Statistical techniques used for inferences of this study are explained at the end of this chapter.

The fourth chapter is devoted to the findings of the study. The profile of respondents, goodness of measure, descriptive analyses and the result of hypotheses testing are presented. At the end of this chapter, a summary of the results is presented.

The fifth chapter discusses the study's findings in depth. Implications and limitations of the present study are also discussed. It then proceeds with future research recommendation and research conclusions.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents an overview of customer relationship management evolution. This is followed by a discussion on general concept of relationship marketing, customer relationship management and customer relationship management performance. Next, the issues regarding customer relationship management performance and banking institution are discussed. Last but not least, the influencing factors of customer relationship performance management selected for this study are presented. Based on literature review of published research, a research framework is formulated and the hypotheses proposed.

2.2 EVOLUTION OF RELATIONSHIP MARKETING (RM) TOWARDS CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

This section provides an overview of relationship marketing (RM) and how it evolves to customer relationship marketing (CRM). Since marketing continuum is the basic concept for relationship marketing it is apt that marketing continuum is explained first.

There are two classifications of approach in marketing that is the traditional based approach on one hand and a strategic market-based approach on the other hand (Jackson, 1985). According to Jackson, traditional approach focuses more on transaction, competition, firm-induced, value to the firm, buyer passiveness, firms

as focus control, firm as boundary, short-term focus and independent, while strategic market relationship focuses more on the partnership, collaboration, co-operation, value in partnership, buyer as active participant, firm as part of the process, boundary-less, long-term focus and dependence and network-led. The move from transactional orientation i.e. the so-called traditional marketing towards strategic market relationship was widely discussed in 1980s. Due to the changes in market strategies that move towards customer focus and value creation rather than product or services focus, a new paradigm of marketing are stress on buyer-seller relationship as another method in value creation for both parties. Thus, the scenario has led to the change from traditional to strategic relationship. Furthermore, Webster (1992) contended that the change from transaction marketing to strategic relationships demonstrates that there is a continuum from the one-off transaction to the vertically integrated organization at the other end of the spectrum (see Figure 2.1).

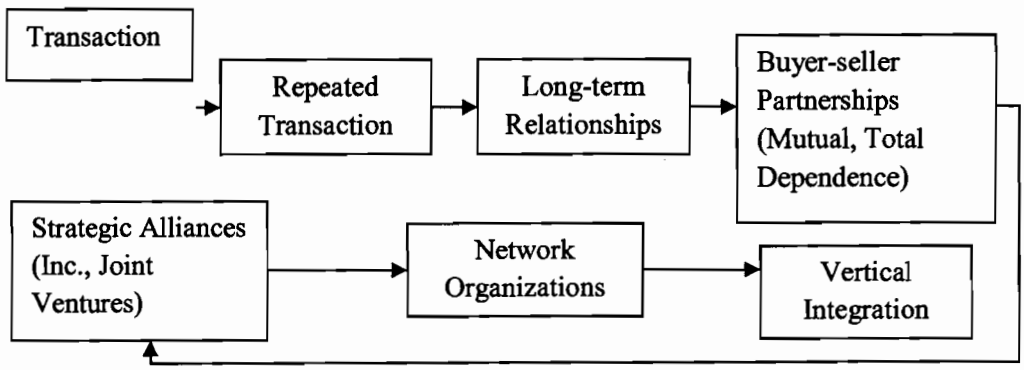


Figure 2.1. A classification of relationship types (Adapted from: Webster, 1992)

Marketing Continuum concept was first coined by Gronroos (1994, 1996) who argued that Marketing Continuum represents a line of marketing strategies with two ends: the left end of this continuum refers to transaction marketing orientation and the right end refers to Relationship Marketing (RM) orientation. Figure 2.2 below shows the marketing continuum.

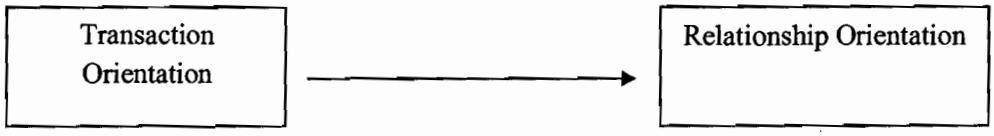


Figure 2.2. The Marketing Continuum (Adapted from: Gronroos, 1994; 1996)

Marketing Continuum represents a new paradigm shift in marketing focus, beginning with acquiring new customers and end with transaction (Strobacka et al., 1994), intended to replace the old scenario of marketing orientation, called as transactional marketing, as proposed by Kotler (1997). Transactional marketing is characterized as short-term, single, and discrete exchange at the beginning and ending with no duties between the parties prior or later in the formation of it. On the other hand, in this new paradigm, the focus has been on the orientation for relationship building between the two parties. As such, this new concept of marketing is referred to relationship marketing (Adamson, Chan, & Handford, 2004; Bansal, 2004; Berry, 2002; Priluck, 2003; Roslin & Melewar, 2004; Rowly, 2004; Singh, 2003). As the name suggests, the relational approach is characterized as long-term, broad, and on-going relational exchange (Gronroos, 1994; 1996; Min &

relational approach (Chaston & Mangles, 2003; Christopher et al., 1991; Roslin & Melewar, 2004). Specifically, the general focus of RM is to build long term relationships with customers (Bansal, 2004; Chaston & Mangles, 2003; Gronroos, 1994; 1996; Rao & Perry, 2002; Roslin & Melewar, 2004; Rowly, 2004; Sin et al., 2002; Tomer, 1998).

The changes in marketing focus have been dramatically shaped from decade to decade. In the early 1900s, the focus was on consumer marketing with companies having the ability to adapt their offerings to treat each customer as an individual (Zaayman, 2003). After world wars, companies tended to focus on product differentiation and then in 1950s the focus moved from production process and marketing efforts to acquisition strategies with new communication media. In the 1980s, direct marketing helped to differentiate products from the mass market, and service quality and satisfaction made marketing more focused. This phase was proceeded by the information era that personalized customers and focused on their retention. By the year 2000, communication mediums have changed, which enabled companies to know more about the customers, thus allowing them to target and customize their offering (van Eeden, 2000). Figure 2.3 describes diagrammatically the evolution.

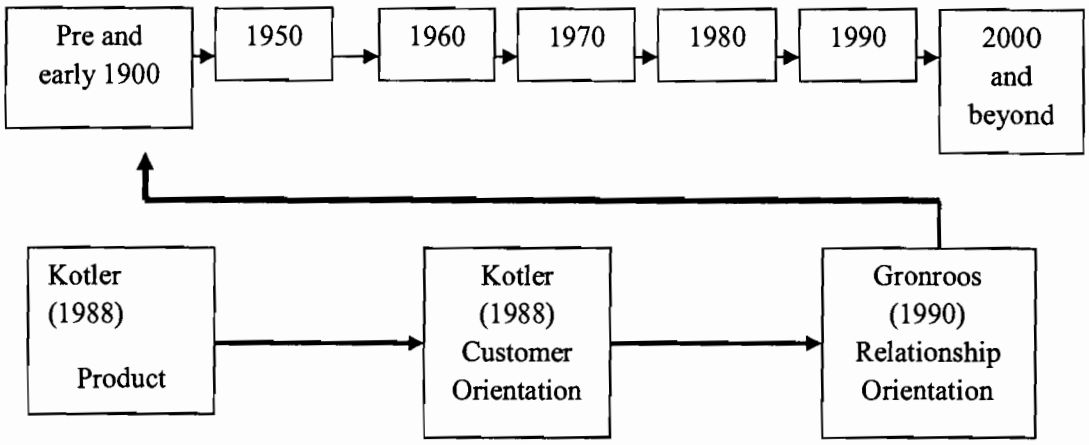


Figure 2.3. The evolution towards relationship marketing (Adapted from: Callaghan and Shaw, 2001)

The relationship philosophy begins with contact management, whereby companies provide contact channels to allow two way communications. Sales Force Automation (SFA) evolved out of contact management and includes activities such as opportunity and account management (CRM Community, 2002). Customer Relationship Management is the next evolution of thought and it has evolved out of SFA (Zaayman, 2003). Sales people were not the only people interacting with customers and the technology was extended to the entire company, including field service groups, the marketing organization, the billing department and help desk (Brunjes & Roderick, 2002). The eras of marketing development show the interest of relationship toward their customers not only for selling purposes. At this stage marketing organizations' focus and directions is on relationship marketing.

CRM is an attractive IT and IS areas for research because of its relative novelty and exploding growth (Ngai, 2005). Previously, CRM focuses are on the three major functional areas: marketing, sales and service and support (Kincaid, 2003; West, 2001; Xu et al., 2002). However, CRM was born from relationship marketing and is simply the practical application of long standing relationship marketing principles that have existed since the dawn of business itself (Gummesson, 2004). Therefore, the present study chooses CRM from the concept of marketing since the aim is to satisfy, retain, and create word of mouth and loyal customer towards the brands.

2.3 DEFINITIONS OF CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

Many authors agree that there is no unified definition of CRM. The term has been defined in different ways, with no clear consensus, but there are two approaches to define CRM i.e. from the perspective of management and information technology approach. When the focus of CRM is on management approach, some authors refer CRM as an integrated approach to identifying, acquiring and retaining customer (Ellatif, 2008). CRM on information technology approach is referred as the tools or system design to support the relationship strategies activities such as identifying, acquiring and retaining customer (Chen and Popovich, 2003).

According to Parvatiyar and Sheth (2001), customer relationship management is a comprehensive strategy and process of acquiring, retaining, and collaborating with selective customers to create superior value for the company and the customer.

It involves the integration of marketing, sales, customer service, and the supply-chain functions of the organization, to achieve greater efficiencies and effectiveness in delivering customer value.

However, the Gartner group has defined it a step further. They describe CRM as an IT approach where CRM is an IT-enabled business strategy, the outcomes of which are to optimize profitability, revenue and customer satisfaction by organizing around customer segments, fostering customer-satisfying behaviors and implementing customer-centric processes. In comparison with the previous definition, CRM is not postulated as a process but instead as business strategy that uses IT. The intention that organizations have in mind for CRM is made explicit: on the one hand, the goal is to increase revenue and profit, on the other, it is to improve customer satisfaction (Peelen, 2005).

Brunjes and Roderick (2002) provide another definition of CRM which focuses more on value creation. They consider CRM as ongoing process of identifying and creating new value with individual customers, and then sharing the benefits from this value over a lifetime. It involves the understanding and focused management of ongoing collaboration between an organization and its selected customers for mutual value creation and then sharing this value through interdependence and organizational alignment. Oaks (2003) provides support by adding that CRM is the infrastructure that enables the explanation of and increase in customer value and the collection of means with which to motivate customers to remain loyal and to purchase again.

Even though there seems to be lack of consensus of what constitutes CRM, most researchers and practitioners agree that CRM is a business strategy that applies the technology to tie together all aspects of a company's business to build long-term customer relationship and customer loyalty. In other words, CRM is said to be effective when it is able to achieve some intended goals. In this context, Kim et al. (2004) define CRM performance as the amount of improvement that retailers achieve in customer relationship strength, sales effectiveness, and marketing efficiency after implementing CRM technology. Their definition is more focused on the activities to establish the relationship for the purposes of organization profit and not for the purposes of customer benefit. Finally, by combining the previous definitions, the researcher defines CRM as a comprehensive business and marketing strategy that integrates people, process, technology and all business activities for attracting and retaining customers to reduce costs and increase profitability that end with customer decision to be loyal to the services.

CRM helps business use technology and human recourses to gain insight into the behavior of customer and the value of those customers. The process can effectively provide better customer service, make call centers more efficient, cross sell products more efficiently, help sales people to be close and deal faster with customers complaints, simplify marketing and processes, discover new customers and increase customer revenues (Ellatif, 2008).

CRM develops from the traditional CRM approach, and then it was supported by the existing of technology tools, such as Internet, website, and wireless into the e-commerce applications of the overall organization. Some advantages of

technology support on CRM exist when the organization considers using a CRM technology to improve service interaction marketing, such as quick service/response time, two-way interactive service relationships, and the ability to supply service for customers from many locations at any time (Pan & Lee, 2003). Because CRM is built to improve long-term relationships between customers and service providers, companies implementing CRM programs can effectively manage customer interactions using these technologies and channels without human contact at all, or minimum levels of human intermediation on the supplier side (Anon, 2002).

The primary goal of CRM is to increase incomes and profits while reducing costs. To reach this goal, the customer needs to increase his/her transactional dealings with the company. If transactions are made more convenient, useful and less expensive for the customer, it is likely that such customer will give the company repeat business (Maheshwari, 2001). Satisfaction is considered to be an immediate goal of CRM. It is assumed to determine the medium-term goals (e.g., customer retention and loyalty) and subsequently firm performance (Khalifa & Shen, 2005). CRM is designed for people at all levels in business and government who want to develop relationships with customers electronically. Because of that, it is critical to understand the important role that CRM plays within modern marketing organizations.

CRM focuses on maintaining profitable relationships with customers through all traditional channels of communication. Jukic, Jukic, Meamber & Nezlek (2002) stress that CRM functions to manage customer interactions at all levels, channels, and media. CRM has attracted the attention of business managers and academic

researchers who are interested in increasing repeat business and customer loyalty. Furthermore, maximizing customer satisfaction and reducing complaints are part of the key components of successful CRM performance.

Traditional dimensions of performance measures are usually finance-based. When it comes to CRM, more measures should be related to customer perspective. Customer satisfaction and loyalty is important measure under this consideration. It represents customers' attitudinal and behavioral response toward one or more service and product category over a period of time (Chang et al., 2005). The commitment between the customers and service providers leads to a building of a long relationship that results in the ability of the company to retain its existing customers and increase the value of these customers through transaction between customers and service providers.

The relation between CRM performance and customer satisfaction and loyalty has become a critical issue. Feinberg and Kadam (2002) in their study tried to discover relationships between CRM and customer satisfaction/loyalty by determining the presence of CRM features on retail websites and to determine if the number of the features are related to customer satisfaction and whether any of the various CRM features are related to customer satisfaction and loyalty. They found that retailers differ in the presence of the CRM features in which more features of CRM make them more satisfied. Furthermore, the researchers found a positive relationship between the number of CRM features on a website and customer satisfaction. However, not all CRM attributes are related to satisfaction.

It is clear that the relation between the customer and the service providers is become an important issue recently. Customer relationship is the main factor for business success. Therefore, it is only natural that companies and service providers give a greater focus to CRM performance. The focus is more on customers instead of products or services i.e. by focusing customer's needs and wants to achieve customer's satisfaction and loyalty. CRM is all about increasing profitability and this enables businesses to keep customers under control, making them feel they are actually a part of the business progress (Shoniregun, Omoegun, Brown-West & Logvynovskiy, 2004). As a result it will enhance the level of customer satisfaction and loyalty.

It is preferable for CRM to be regarded as business strategy which aims at developing long-term mutual profit, creating personalization relationships based on IT infrastructure to enable it to function optimally (Peelen, 2005). In this context, implementing CRM can provide many benefits for customers and service providers and help to get mutual benefits from both parties. Wang et al. (2004) indicate that several benefits that might be derived from CRM, namely, increased loyalty towards the brand, increased satisfaction, increased retention, and positive word of mouth.

2.4 CUSTOMER RELATIONSHIP MANAGEMENT PERFORMANCE

Measuring performance of CRM is very important for organizations but little research is done to measure this concept. Researchers believe that CRM performance should be measured in terms of customer behaviors since customers are the underlying source of value of for a company and have the potential to

increase the future revenue streams (Wang et al., 2004). Sheth et al. (1991) suggested five dimensions of value from the customer's perspective i.e. social, emotional, functional, epistemic, and conditional as providing the best foundation for extending the value construct. Because the primary purpose of CRM is to increase revenue and customer lifetime value, customer behaviors that might bring revenue become strategically important (Bolton, Lemo, & Verhoef, 2002).

Traditional dimensions of performance measures are usually finance-based. When it comes to customer relationship management, the measures should be related to customer perspective (Chang et al., 2005). Furthermore, customer loyalty is an important measure under this consideration. It represents customers' preferential, attitudinal and behavioral response toward one or more brands in a product category over a period of time (Chang et al., 2005). The commitment and loyalty of the customers and the companies lead to a long-lasting relationship (Ston et al., 1996).

In addition to customer loyalty, customer repurchase is another CRM performance dimension. Other dimensions include retention intention, word of mouth and brand loyalty. On-line retailers, companies and providers have to recognize that when the customer makes first-time purchasers at their sites, such transaction will not necessarily mean that they will become repeat purchasers or satisfied customers because they sometimes never come back, as indicated by a study conducted by the Boston Consulting Group (2000) that found that 65% of on-line customers would never make a second purchase. This fact should alarm firms and service providers about an actual service gap. Therefore proper data regarding

customers such as date of purchases and amount of purchases should be recorded properly to monitor CRM performance. In this case, CRM technology should be more advanced and sophisticated to meet the requirement for developing and knowledgeable customers.

In a previous study of CRM performance to explore the aspects that are related to CRM technology impact performance across customer lifecycle phases, Greve and Albers (2006) argue that the usage of CRM technology consistently has a strong impact on CRM performance. They propose that the more comprehensive CRM technology and the higher CRM technology usage, the better CRM performance across the phases of the customer lifecycle. This shows that CRM technology has an important impact on the performance of the customer relationship.

CRM performance can also affect other type of performance. Reinartz, Krafft, and Hoyer (2004) discovered a positive relationship between a set of CRM activities and economic performance. Furthermore, Hendricks, Singhal and Stratman (2007) observed that financial benefits of these implementations yields mixed results. In the case of Enterprise Resources Planning (ERP) systems, they observe some evidence of improvements in profitability. In the implementation of CRM systems, Chatterjee, Pacini & Sambamurthy (2002) found that by providing 112 infrastructural IT investments in technologies the abnormal stock market returns arising anywhere from 0.5% to 0.84%, indicating that the market reacts positively to IT investment announcements. Hitt et al. (2002) analyze a sample of CRM implementations using accounting and stock market based performance measures.

They find evidence of improved financial performance during implementation, but are unable to estimate the long-run impact of systems due to a lack of post-implementation data at the time they conducted their study.

Greve and Albers (2006) propose three phases of CRM performance: initiation, maintenance, and retention. They found a positive relationship between CRM technology, CRM technology usage and CRM performance. They conclude that CRM technology has a positive influence on all phases in CRM performance. Chang et al. (2005) investigated CRM performance influence in service sectors in Taiwan from the viewpoints of customers. Their finding shows that customer satisfaction was the main reasons for service companies to retain in their services package. A study by Reinartz et al. (2004) provides further support for the claim that the CRM approach can improve company performance. Despite the insights provided by previous studies on CRM performance, the most recent CRM performance studies only investigated marketing performance of company from customer behaviors perspective since it is more practical (Chang et al., 2005; Wang et al., 2004).

Because customers are the very focus in CRM, its performance will therefore be customer based. Customer retention, repurchase, cross buying, word of mouth, customer satisfaction and brand loyalty are main indicators of CRM performance (Wang et al., 2004).

2.5 CUSTOMER RELATIONSHIP MANAGEMENT PERFORMANCE AND BANKING SERVICES

A review of the current literatures suggests that banking institutions still lack understanding of the concept of CRM especially in Malaysia (Shanmugam & Guru, 2003). As highlighted by Dunne (2002), although CRM can help banking institutions in efficient management of their customers, a lot of banks are unsuccessful in implementing CRM into their work culture, despite the increasing number of electronic banking users due to the technological development in basic infrastructure in line with the growth of ICT technology in Malaysia. The unsuccessful result of implementing CRM is due to their work cultures which are shaping their attitudes on reluctant to use the CRM related tools such as call centre, online complaints system and online transfers at the optimum levels (Wahab and Hassan, 2005).

In banking industry, the customer value creation is only from the delivery process and transaction activities between the banks and customers. It is important for the banking institution to ensure the creation of value when delivering the services. The pillars of successful CRM can be achieved through the integration of people, technology and processes involved along the way of value creation between the two parties (Chen & Popovich, 2003). In the banking scenario, the people is referred to as the management and staff of the banks, the technology to the tools or channels of delivering the services and the process component to the process of delivering the services.

With the advent of the Internet, building good relationship with customers has become more crucial than ever. Not only Internet brings more customers, it also enables them to change banks with a simple click of a mouse. Therefore, it is more challenging for banks to retain their customers especially in their electronic banking services. In fact, the Internet is an environment of zero latency, offering real-time information and often on-demand product delivery (Famulla & Wassink, 2001).

The e-commerce revolution has driven banks to invest in technology that would allow consumers to shop, register a complaint, browse online catalogues, or check on orders at their convenience besides making online payment. A research revealed that nearly one third of the consumers surveyed believe that the most important aspect when dealing with banks is having a variety of communication channels to interact with the banks (GartnerGroup.com, 2002).

As a conclusion, it is challenging for banks to create loyalty among their customers in term of electronic banking services. They have to be aware on relationship building strategies through regular channel where the services are offered. They must ensure the services are equipped with customer value since it is the core component in establishing CRM strategy. The current research will investigate the influence of technology factors and service process factors from the delivery activities on customer relationship management performance. Many authors stress the importance of integrating technology, people and process factors to achieve successful customer relationship management implementation (Bose, 2002; Bull, 2003; Chen & Popovich, 2003).

2.6 INFLUENCING FACTORS OF CRM PERFORMANCE

A review of work in the area of customer relationship management reveals many factors that might influence CRM performance, such as customer value (Day, 1994; Jensen, 2001; Slater, 1997; Wang et al., 2004), customer focus, company-wide adoption, cross functional and business processes (Chen & Popovich, 2003). The following subsections will discuss in detail the factors that influencing CRM performance and then it will proceed by explaining the reason why the focus is on selected factors only.

According to Chen and Popovich (2003), the three pillars of successful CRM implementation are people, process and technology. They argue that future research should investigate the integration of these factors as determinants for successful CRM performance. It is based on their proposition that this present study intends to focus on these three key areas as the main influencing factors of CRM performance in electronic banking services. Indeed when one reviews the marketing literature, there is lack of studies that have simultaneously examined these influencing factors of the CRM performance (Avlonitis & Panagopoulos, 2005). To bridge these gaps, further empirical investigation on the influencing factors of CRM performance is required (Sin et al., 2005; Wang et al., 2004).

2.6.1 People Factors

People factors have been found to be related to CRM performance. People factors might be attributed either from customer side or employees. Many studies have been carried out to determine the influence of people factors on customer relationship

management performance. However, most of the studies undertaken on the impact of people factors concentrated on employees.

With respect to employee factors, Hurley and Hult (1998) found that knowledge towards innovating new products and services will affect the performance of CRM. All the innovations on products or services require persons with high creativity at their workplace. High creativity workers are those who have acquired skills and knowledge through years of experience at the workplace (Hurley & Hult, 1998). Hence, the innovation is either in the services or products that are manifested from creative and knowledgeable workers to enhance customer satisfaction.

Besides knowledge, employees' socialization attitudes or customer friendly policy on customers also support relationship development between the company and customers. Past research by Bitner (1995) and Gwinner et al. (1998) showed that continuous socialization between affected parties enables stronger relationship among company and customers. This then provides an opportunity for the company to capture more benefits from the customers' repeat purchase. Furthermore, initiatives by CEO in sending Christmas card, PR materials, publications to their customers are alternative approach to enhance customer attitudes towards a brand (Bitner, 1995; Gwinner et al., 1998). In other word, rapid communication and inter-personal communication between employees and customers can develop customer loyalty and at the same time improve customer relationship management performance.

Apart from the role of employees on CRM performance, this study focuses only on the other side of people factor that is customer factor since customer value has the potential in influencing customer relationship management performance. The rationale for the effect of this variable is because, firstly, it has been found to be consistently correlated with customer relationship management performance in prior studies. This implies that this factor can produce high level of behavior-based CRM performance. However, since previous studies have been conducted in different context and location, the consistency of prior findings derived from developed country and business context is a relevant extension of knowledge (Wang et al., 2004). Secondly, customer factor seems to have attracted a lot of recent research interest in different service environment. It is especially interesting to investigate it in virtual service context where no face-to-face communication, such as online banking transaction. Furthermore, according to Wang et al. (2004), CRM performance measurement must be based on customers since they are the underlying source of value for a firm, therefore the potential impact of this factor on behavior-based customer relationship management performance from the perspective of customer needs further investigation (Chang et al., 2005).

2.6.1.1 Customer value

There are many published definitions of customer value. Zeithaml (1988) considered value as the customer's overall assessment of the utility of a product based on the perception of what is received and what is given. Woodruff (1997) defined customer value as a customer-perceived preference for, and evaluation of,

attributes of a product, attributed performance, and impacts of customer's goals and purposes. Sheth et al. (1991) identified five consumption values: "functional", "social", "emotional", "epistemic" and "conditional" – which could influence consumer purchase and choice of behaviors. As a summary, customer value factor is defined as the value that the customers will capture from the services that they are paid for. In other words, the value that customers will receive is in the form of functional value, economic value, perceived sacrifices, emotional value or social value captured from the services rendered. "Emotional value" refers to the utility derived from the affective states that a product or service generates, while "social value" refers to the social utility derived from the product or service. "Functional value" refers to the utility derived from the perceived quality and expected performance of the product or service, and "perceived sacrifice" refers to the loss derived from the product or service due to the increment of its perceived short-term and long-term costs (Wang et al., 2004).

The above components of customer value have been found to be predictive of customer satisfaction and loyalty references. High economic value will increase the switching cost perception and it will make them more loyal towards current service provider (Liu, 2007). Recently Ismail and Khatibi (2004) conducted a study on the relationship between perception of value and price and customer satisfaction in telecommunications industry in Malaysia. They proposed that customers' perception of value will increase their level of satisfaction. Their findings supported the hypothesis developed in that customer value influences customer satisfaction especially in telecommunication services in Malaysia.

Similar to the above study context, Wang, Lo, and Yang (2004) examined an integrated framework of service quality, customer value, and satisfaction in China's telecommunication industry. They found that customer value moderates the relationship between perceived quality and customer satisfaction, while customer satisfaction mediates the relationship between customer value and behavior intention. However, there is no direct impact between customer value and behavior intention. By comparing both studies in telecommunication industry by Ismail and Khatibi (2004) in Malaysia and Wang et al. (2004) in China, we can conclude that customer value plays a crucial role in customer satisfaction. However, the study in China goes extra by confirming the relationship between customer satisfaction and behavior intention.

In addition, past research has confirmed the importance of customer value on intention to repurchase. For example Jen and Hu (2003) investigated the customer value model on passengers' repurchase intentions of city bus services. Their study found that passenger repurchase intentions are typically determined by their perceived value of the service. The customers are concerned about whether the benefits are sufficient in comparison to the perceived costs. Given identical perceived benefits, they further revealed that perceived value declines with increasing perceived costs. In some conditions, price decision contributes more towards customer value as perceived by customer especially in bus transportation services because they make a payment before receiving the services.

Within the context of online purchasing, Chen and Dubinsky (2003) conducted a preliminary investigation on perceived customer value in e-commerce.

The regression result showed a highly significant and positive relationship between perceived customer value and on-line purchase intention. Chu and Lu (2007) conducted a research to investigate the factors that influence intentional purchase of online music by Taiwanese early adopters. The found that customers intend to purchase online music only after they have perceived the value they will receive from the buying activity i.e. whether the purchase commensurate the payment they are about to make. Wu (2007) investigated the inter-relationship between perceived value, service quality, satisfaction and behavior intention among outpatient services in Taiwan healthcare services. His main finding shows that customer's perceived value had a greater influence on behavioral intentions than service quality and patient satisfaction. By comparing the research findings by Wu (2007) and the previous research by Chu and Lu (2007), we can conclude that customer value is not only necessary for purchasing intention of physical product but is also necessary for services intention in healthcare services.

Within the online banking context, Vatanasombut, Igbaria, Stylianou, and Rodgers (2008) have extended the theoretical model of continuance intention on online banking services. They used different approaches in constructing customer value concept by focusing on the benefits that customers capture from the services. They found that customer value is important in creating mutual understanding between banks and online banking customers. Hence, customer value is significantly influenced by continuance intention of customers towards online banking services.

As a summary, it can be concluded that customer value factor plays a crucial role in customer satisfaction and repurchase intention in different contexts. However, in the context of online services, customer value factors are more critical because of the physical distance between customers and service providers (Chu & Lu, 2007). Because of this, the potential influence of customer value on customer relationship management performance in e-banking industry merits further investigation.

2.6.2 Technology Factors

As discussed earlier, in order to accomplish CRM performance, there is a need to integrate between human factors, technology and business processes (Chen & Popovich, 2003). Besides value creation elements from the people, many researchers have highlighted the importance of technology factors as the influencing factors of CRM performance in electronic banking services. According to Curry and Penman (2004), the only way to improve service provision is by integrating human inputs and technology support. Human inputs include employees at different levels such as managers, support staff and back offices employees, while technology support refers to the usage of systems and software to accomplish job.

Technology is important in e-commerce and service interaction. It is likely to be the major force in shaping customer interactions or buyer-seller interaction in the nearest future (Parasuraman & Grewal, 2000). Within the context of CRM, information technology in particular is important to gather data, which can then be used to develop information required to create a more personal interaction with

customers (Bose, 2002). Furthermore, Mulligan and Gordon (2002) found that information technology can improve customer service levels by providing new forms of affordable service delivery, thus providing customers the opportunity to help themselves.

However, whether or not customers are willing and ready to provide personal data depends much on whether they trust the technology being used and whether they perceive the technology as being useful (Bose, 2002). Those only useful services can ensure a repeat usage, satisfaction and loyalty effect among the customers in their routine banking activities. Furthermore, Davis (1989) has established that usefulness is the main pillars in customer intention towards technology. Similarly, trust on the services also important since it can influence the willingness of customers to choose the services repeatedly. Recently, Chen and Corkindale (2008) found that trust is important on behavior intention in adopting online services. So that, both factors are necessary for CRM performance. Hence, because of the nature of the information technology in CRM, this study proposes perceived trust and perceived usefulness as the influencing factors of CRM performance since both of them affect the buyer-seller relationship and are applicable in online services context.

Furthermore, perceived usefulness has been consistently found to influence intention and customer behavior (Davis, 1989; Venkatesh & Davis, 1996), while perceived trust as one of the predictors of behavior intention in Technology Acceptance Model (TAM) (Chai & Pavlou, 2002; Gefen & Straub, 2002; Jarvenpaa et al., 1999; Song & Zahedi, 2002). Based on these reasons, both perceived

usefulness and perceived trust are considered as technology influencing factors for the present study.

2.6.2.1 Perceived trust

Trust can be defined as users' thoughts, feelings, emotions, or behaviors that occur when customers feel that the provider can be relied upon to act in their best interest when they give up direct control (Patrick, 2002). It is also important to understand that trust can stem from an established name brand and trust is a dynamic relationship process that must be built over time. The lack of trust is a critical issue that needs addressing when it involves the Internet and adoption of e-commerce (CommerceNet, 1997). Indeed, the literatures have established that trust is even more difficult to be built in an online environment (Hoffman et al. 1999). As behavioral intentions of customers are impacts of both trust and commitment, evidently lack of trust has been one of the most significant reason for customer not to adopt online services involving financial exchanges (Gummerus et al, 2004; Lee & Turban, 2001). Researchers have suggested that online customers generally stay away from vendors whom they do not trust (Reichheld & Schefter, 2000). In other words, trust is the critical factor for success or failure in e-businesses (Shalhoub, 2006) and e-services as well.

In an electronic commerce environment, trust is difficult to build because the face-to-face interaction in a commerce transaction is absent, but is more critical for its success when compared to traditional commerce. Trust is a long-term proposition that may be tough to build but easy to lose (Head & Hassanein, 2002). It has been

shown that trust is a significant concept, particularly in the context of retaining customers on the Web since customers perceive various types of risks on the Internet. Hence, trust is a major challenge that needs to be addressed through the usage of the Internet. Customers with various technology readiness levels may face problems when attempting to transact e-commerce. Therefore, trust helps to reduce the social complexity that customers face in e-commerce and increases the confidence level by allowing them to overcome their negative perceptions of e-commerce. Thus, trust has been established as a crucial factor in encouraging online customer business activity (Gefen & Straub, 2000).

Indeed, past research has indicated that "trust" has a prominent influence on users' willingness to engage in online exchanges of money and sensitive personal information (Hoffman, Novak, & Peralta, 1999). In addition, many studies have found a significant relationship between trust and electronic banking or any e-commerce adoption. For example, past empirical studies found that trust is significantly important for online purchase (Chen & Barner, 2007), web site loyalty (Flavian & Guinaliu, 2006), online banking commitment (Mukherjee & Nath, 2003), adoption of electronic banking (Rexha et al., 2003) and behavior intention in adopting online information service (Chen & Corkindale, 2008). In addition, previous study by Chen and Barner (2007) proved the importance of initial trust on purchase intention towards online shopping. They found that both online initial trust and familiarity with online purchase have a positive impact on purchase intention. Flavia´n and Guinali´u (2006) conducted an empirical survey on web site loyalty. Their study revealed that an individual's loyalty to a web site is closely

linked to the level of trust. Thus, the development of trust not only affects the intention to buy, but it also directly affects the effectiveness of purchasing behavior, in terms of preference, cost and frequency of visits. Mukherjee and Nath (2003) conducted a survey in India to investigate the model of trust in online relationship banking. Their main finding confirms the positive relationship between perceived trust and customers' commitment to online banking transaction. Again in 2007, they conducted a survey among British online customers to re-examine the commitment-trust theory (CTT) of relationship marketing in the online retailing context. The results showed that privacy and security features of the web site along with shared values were key predictors of trust, which in turn positively influences relationship commitment.

Chen and Corkindale (2008) tested six factors as potential key drivers in the adoption of online news services (ONSs) in their framework. The six factors are: Perceived Usefulness (PU), Perceived Core Service Quality (PCSQ), Perceived Supplementary Service Quality (PSSQ), Trust, Networking, Interface and Subjective Norm. Of all the factors, they found that trust has the most significant effect on behavioral intention.

Based on the theory of planned behavior, George (2002) conducted a semi-annual survey of Web users to determine the relationship between trustworthiness and attitudes towards Internet and its effect on purchase intention. The result shows that belief in the trustworthiness of the Internet leads to more positive attitudes toward purchasing on the Internet.

Vatanasombut et. al (2008) have extended Commitment–Trust theory, an expectation–confirmation model, and technology acceptance theory to develop a model of IS continuance intention of customers of online banking. Their study employed a field survey of online banking customers to gather data. They found support for their hypothesis that perceived trust has a positive effect on customer commitment to relationship and their likelihood to continue using the system.

Numerous studies have proved the linkage between trust and customer satisfaction. However, there were conducted mainly in the online service and information system acceptance. Furthermore, they were carried out in the West countries and as such their findings may not necessarily and accurately describe the phenomenon and situation in other cultural contexts (Chan & Lu, 2004). This suggests that more research needs to be conducted to establish the relationship between perceived trust and customer behavior in the context of electronic banking services.

2.6.2.2 Perceived usefulness

Besides perceived trust, another variable chosen under the technology factor in the present study is perceived usefulness. The classical definition of perceived usefulness by Davis (1989) is the degree to which a person believes that using a particular system will enhance his or her job performance. Perceived usefulness is also defined as consumers' perceptions of functional and practical dimensions (Menon & Kahn, 2002). The importance of perceived usefulness has been widely recognized in the field of electronic and service sector, especially with respect to

subjective probability that using the technology would improve the way a user could complete a given task. Moreover, customers' expectations and acceptance of the new technology and their beliefs in their ability to use it directly influence their needs and desire to adopt it (Chan & Lu, 2004).

Constantinides (2004) conducted a literature research to identify the Web experience components and to understand its role as inputs in the online customer's decision-making process. They found that the main constituents of the online experience or Web experience are the functionality of the Web site that includes the elements dealing with the site's usability and interactivity. Functionality was defined as Web functioning, easy to explore, fast, and interactive Web site.

Past research has linked the relationship between usefulness, intention and behavior. Recently, Shih and Fang (2004) tested both TPB and TRA models in Taiwan and found that two technological aspects of the Web site interface, namely perceived ease of use and perceived usefulness significantly affect customer adaptation intentions. Since this research investigates customer behavior on electronic banking, it is also possible to propose perceived usefulness as one of the factors contributing to customer relationship management performance.

Accordingly, Chen and Corkindale (2008) conducted in-depth interviews with industry experts to identify six potential drivers in adoption of online news services. They discovered a positive relationship between perceived usefulness and online news services. Besides that perceived service quality, trust and interface are found to significantly influence perceived usefulness.

In other study, Lin (2007) expanded TAM by examining the impact of online and offline features on the sustainability of virtual communities. He concluded that perceived usefulness, perceived ease of use and offline activities were determinants of sustainability of virtual communities. He added that information quality affects perceived usefulness, while system-quality and service quality influence both perceived ease of use and perceived usefulness of virtual communities. Furthermore, Chau and Hu (2001) had found positive relationships between usefulness and adaptation of a variety of specific technologies, ranging from computer software to e-mail.

Using extended TAM as a theoretical framework, Wang et al. (2003) conducted a telephone interview to investigate user's intention from various computer experiences in the acceptance of Internet banking. Their research results strongly supported the extended TAM in predicting the intention of users to adopt Internet banking. It also demonstrated the significant effect of computer self-efficacy on behavioral intention through perceived ease of use, perceived usefulness, and perceived credibility and Internet banking. Similarly, other research indicates that high degrees of computer and Internet self-efficacy have an attenuating effect on the relationship between perceived usefulness and behavior intention (Eastin & LaRose, 2000).

Besides linking perceived usefulness and intention towards the system acceptance, past research also highlighted the relationship between perceived usefulness and attitudes towards the system acceptance. For example Shin (2009) tested the relationship between perceived usefulness and attitude toward the mobile

wallet. His model confirms the classical role of technology acceptance factors in which a positive relationship between perceived usefulness and customer attitude was found. Furthermore his hypothesis on the relationship between attitude and intention was also supported. Similarly, Eastin and LaRose, (2000) confirmed the relationship between usefulness and attitude toward adopting the Internet. Likewise, Shih (2004) in his survey to investigate user acceptance of e-shopping on the Web revealed that perceived usefulness significantly determines individual attitudes toward e-shopping, and that perceived ease of use of Web significantly influences perceived usefulness. He added that, user satisfaction with the Internet and perceptions of information, system and service were shown to affect user acceptance significantly. These finding shows that the original TAM model are still practical in explaining customer behavior.

However, Cheng, Lam, and Yeung (2006) found that attitude does not fully mediate the effect of perceived usefulness and perceived ease of use on intention in the user adoption of internet banking. They declared that their result provide support for original TAM since Davis (1989) empirical works have found that attitude only partially mediates the relationship between perceived usefulness and intention.

Past research also confirmed the double roles of perceived usefulness in inter-relationship between perceived usefulness, attitude and intention. For example, Lee (2008) found that perceived usefulness has a significant effect on the intention to use online banking. Moreover, it has an indirect influence, via attitude, on behavioral intention to use online banking. This result is similar to the finding reported by Taylor and Todd (1995), who indicated that perceived usefulness has

both direct and indirect influences on behavioral intentions toward use of the system.

Past researches that focused on TPB and TRA models have successfully established that perceived usefulness significantly affects customer adaptation intention. Furthermore, perceived ease of use and perceived usefulness are two widely studied beliefs that have a significant influence on usage behavior (Lee, Kozar & Larsen, 2003; Venkatesh et al., 2003). Little empirical research however has been done to investigate behavioral intention and its impact on online service (Hackman et al., 2006). This research attempts to address this gap by examining usefulness as one of the influencing factors to explain behavior intention in electronic banking contexts.

2.6.3 Business Process Factors

The third set of factors which have been frequently cited in customer relationship management studies is business process. Many authors highlighted the importance of business process as the influencing factors of CRM performance (Chen & Popovich, 2003). However lack of empirical research has been done to investigate the relationship between business process factors and CRM performance especially in electronic delivery (Lee & Lin, 2005).

Joseph et. al, (2005) conducted an exploratory study to discover the underlying areas of dissatisfaction associated with the banking experience in the UK, particularly as it relates to the implementation of new service delivery technology in the banking industry. They have found that reliable and accurate

banking system and personalized service are extremely important in electronic banking services. Besides that, customer service and the accuracy of record system play moderate importance.

Ibrahim, Joseph, & Ibeh (2006) investigated six service process factors in term of their degree of importance in customer preference and satisfaction towards the services. They found that convenient/accurate electronic banking operations, accessibility and reliability of service provision, provision of friendly and responsive customer service and provision of targeted customer service are extremely important in electronic banking. Besides that, good queue management and service personalization are moderately important in satisfying customers. In terms of service personalization, their findings contradict past study by Joseph et al. (2005) who found that service personalization is extremely important in customer satisfaction.

Service delivery process is explained by the way service providers deliver their services to customers electronically. Since there is a distance between customer and service providers, electronic service delivery becomes more crucial in the online services. In electronic marketing, the knowledge gap still exists due to the issue of technology-induced transformation in the marketplace (Parasuraman & Zinkhan, 2002). Technology-induced transformation is about the process of service delivery by the assistance of technology that represents electronic service delivery such as electronic transaction, electronic payment and banking. Recently Lee & Lin (2005) also highlighted the need for further research to measure the influence of e-service delivery on customer satisfaction. In addition, Ibrahim et al. (2006)

suggested that future research should aim to examine whether particular electronic service delivery factors vary in importance across technology types, including ATMs, telephone/call centre and internet banking.

A recent study undertaken by White and Nteli (2004) investigated why the increasing number of internet users in UK was parallel with the increase in internet usage for banking purposes. They found that customers are still very much concerned with security, privacy and service quality aspects of on-line banking. Furthermore, White and Nteli (2004) argued that the issues of security, trust, ease of use, privacy and service quality are all important determinants of customer intention to use online banking.

From the argument explained above, this study has chosen perceived security, perceived privacy and perceived electronic service quality from business process delivery related factors as potential influencing factors of CRM performance. Further justifications for the selection of these factors are discussed in detail in sub-sections below.

2.6.3.1 Perceived privacy

Perceived privacy is found to be predictive of customers' behavior especially in conducting online transactions. Privacy has long been accepted as the right of a person to be left alone and to be able to have control over the flow and disclosure of information about him or herself (Warren & Brandeis, 1890). Privacy is a difficult concept to describe and define since privacy has been used to indicate a wide number of interests such as personal information control, reproductive autonomy,

access to places and bodies, secrecy, and personal development. Privacy interests also appear to be culturally relative – for instance , in some culture, opening a door without knocking might be considered a serious privacy violation and yet permitted in another, that means culture effect privacy (Kemp & Moore,2007). Issues pertaining to information privacy on the Internet become a serious matter especially when it involves online payment (Attaranm & VanLaar, 1999; Goldberg et al., 1997; Sheehan & Hoy, 2000), online banking and Internet purchasing (George, 2002; Goldberg et al., 1997; Lallmahamood, 2007; Sheehan & Hoy, 2000).

A common and widely recognized obstacle to electronic commerce adoption has been the lack of privacy and security over the Internet (Chan & Lu, 2004) and concerns about privacy are not new. This has been discussed often in many forums because new information technologies and information systems have improved the collection, storage, use, and sharing of personal information (Shalhoub, 2006). In the World Wide Web and internet environment, consumers are very concerned about the privacy and security of their personal information and demanding for greater privacy. Indeed a study by Singh and Hill (2003) affirms that consumers' behaviors with respect to the use of Internet are dependent on many factors, and privacy is one of them. In addition, concern about the privacy of personal information and communication is the top reason many consumers stayed out of the Internet (Business Week, 1998).

For example, Udo (2001) conducted a survey among Web users about the factors they are most concerned in their decision to purchase through the Web. He found that perceived privacy is the most important concern in the decision to

purchase; this follows by security and threats, impersonation and forged identity, children protection, email safety and censorship. He concluded that the key success for Web-based businesses is by assuring the protection of customer privacy and safety. Besides that George (2002) found that perceived privacy is significantly related to customer attitudes toward Internet purchasing. He discovered that belief in the property view of privacy was associated with negative attitudes toward Internet purchasing.

Since three is evidence on the importance of privacy for online consumers, companies have to understand how to reach an appropriate balance between developing customer insights and maintaining customer's privacy, and how to manage individual customer's privacy. On the other hand, as part of a holistic approach to CRM, companies must make every effort to deliver more-effective pre and post-sale interactions with their customers. Maintaining good interactions with the customers is a core activity in customer services as it involves policy regarding the protection of customer data and information. Evidently, customer privacy is a critical consideration for customer services (Janowski & Marcus, 2002).

As a summary, customer privacy is very important in transaction between customers and service providers online and users' behavioral intention in e-commerce (Dinev & Hart 2006; Tao, 2008). Therefore, perceived privacy is included as a potential factors influencing customer relationship management performance in electronic banking service.

2.6.3.2 Perceived security

Another service delivery factor that is identified as influence variable in the present study is perceived security. Perceived security is defined as online integrity, confidentiality, authentication and non-recognition of transaction (Flavia´n and Guinali´u, 2006). Because a number of different dimensions of perceived security are found to be predictive of customer behavior especially in online transaction such as online integrity, confidentiality an authentication, it is reasonable to propose that perceived security can possibly influence customer relationship management performance.

Earlier studies have revealed the importance of security factors in e-commerce activities. For example, past research confirmed that customers are very concerned about security factors when they transact business through online shopping (Udo, 2001; Goode & Harris, 2006), adopt online banking (Laforet & Li, 2005); make Web purchases (Salisbury et al., 2001) and accept mobile wallet (Shin, 2009).

Goode and Harris (2006), in their research among online shoppers to develop and extend online behavioral intentions models by examining the predictors of behavioral intentions and evaluating the role of switching costs as moderators, found that online security is directly and positively associated with behavioral intentions of consumers. Laforet and Li (2005) also found similar result in their survey to investigate attitudinal and behavioral characteristics of online and mobile bank users in six major Chinese cities. They found that security was the most important factor that motivated the adoption of online banking by Chinese consumers has. Likewise, Salisbury et al. (2001), who investigated the relative

impact of beliefs about Web shopping and the intent to purchase products using the World Wide Web, revealed that security is a greater influence on intent to purchase using the Web. Furthermore, among the three factors tested, perceived security contributes more towards purchase intention followed by perceived usefulness and ease of navigation.

By using unified theory of acceptance and use of technology (UTAUT) model, Shin (2009) conducted an empirical research to examine the influence of perceived security, trust, social influence, and self-efficacy on users' attitudes and intentions. He discovered that attitudes and intentions are influenced not only by usefulness and ease of use but also by perceived security and trust.

From the discussion above, it appears that perceived security has generally produced supportive evidence for relationship to customer behavior-based performance. However, since most of these studies were conducted in the West, the applicability of the findings may be limited to different cultural contexts (Grant et al., 2001). For the successful implementation of electronic banking in Malaysia, adequate legal and physical infrastructure such as privacy is major prerequisite (Guru et al., 2004). For this reason, perceived security is included as a potential influence of customer relationship management performance in electronic banking services context.

2.6.3.3 Electronic service quality

Apart from perceived privacy and security, perceived electronic service quality is another business process factor considered in this study. Ziethaml, Parasuraman,

and Malhorta (2002) introduced the concept of electronic service quality (e-SQ), which is defined as "the extent to which a website facilitates efficient and effective shopping, purchasing and delivery of products and services" (page 366).

E-SQ has strategic importance for businesses that aims to address customers in the electronic market space. This is because unsatisfied customers will usually make many complaints regarding the services provided, regardless of whether the services are provided online or offline. Indeed, past empirical research has discussed the importance of service quality issues in either traditional or electronic banking services. For example, a study by Snellman and Vihtkari (2003) confirmed the relationship between a number of complaints and service satisfaction in traditional and technology-based banking. In interpersonal service encounters, unfriendly or impolite service or time factors were the most frequent causes of dissatisfaction. In technology-based encounters, dissatisfaction of quality of electronic services was most commonly related to failures in technology, service design or in the service process. It could be argued that technology related complaints should reduce significantly over time with improved quality and consistency of services and technology has the advantage of consistently delivering the same quality when compared with the behavior of individual staff (Curry & Penman, 2004).

In a study by Ibrahim et al. (2006) to explore the key factors of the perceptions of electronic service quality (e-SQ) among UK banking customers, they found that e-SQ dimensions that contribute to e-SQ are the provision of convenient/accurate electronic banking operations, the accessibility and reliability of service provision, good queue management, service personalization, provision of

friendly and responsive customer service, and provision of targeted customer service. Their finding further showed that the customers are fully aware of the expected characteristics of electronic service.

In a different study, Yen and Lu (2008) explored cognitive beliefs and affects that influence an individual's intention to repurchase in online marketplaces using expectancy disconfirmation theory (EDT). In their study, they hypothesized that electronic service quality of the sellers is positively associated with bidders' satisfaction. They found that bidders' satisfaction mediates the relationship between electronic service qualities and repurchase intentions. They further found an indirect relationship between service qualities and repurchase intention in online marketplaces.

Hackman et al. (2006) conducted a national survey on Australian customer with online purchase experience. The purpose of their study was to examine the relationships between behavioral intentions and their influence factors in online services settings. Their results revealed that behavioral intentions were directly influenced by electronic service quality. Wu (2007) investigated the inter-relationship between perceived value, service quality, satisfaction and behavior intention among outpatient services in Taiwan healthcare services. They found that perceived service quality has both an indirect effect (through perceived value and satisfaction) and a direct influence on behavioral intentions. Cristobal, Flavia´n, and Guinali´u (2007) investigated the relationship between perceived electronic service quality on consumer satisfaction levels and the level of web site loyalty. Their structural model results showed that satisfaction mediates the relationship between

perceived electronic service quality and consumer loyalty. They argued that in order to improve service quality of the Web, site managers should enhance personalized service, provide quick response to complaints, and correct product delivery, and product manipulation or services.

Based on the above evidence, one can assume that perceived electronic service quality has generally produced support for the relationship with customer behavior. This is because earlier studies have confirmed the effects of online service quality on consumer behaviors (Caceres & Paparoidamis, 2005; Flavia'n and Guinali'u, 2006; Hackman et al., 2006; Wu, 2007). For this reason, perceived electronic service quality is included as a potential factors influencing customer relationship management performance in this study.

Furthermore, this study also intends to add to the limited studies on online service quality within electronic service environment (Yen & Lu, 2008). For example, even though Ibrahim et al. (2006) and Snellman and Vihtkari (2003) studies perceived electronic service quality in banking services, their studies were too general on banking services and not on specific banking services such as ATMs usage, phone banking, mobile banking and Internet banking.

2.7 THEORETICAL FRAMEWORK

This study primarily focuses on individual customers and his/her perception on company customer relationship management performance, by exploring the influencing factors of customer relationship management performance. Based on

our literature review and research problems, an integrative framework is developed as in Figure 2.4.

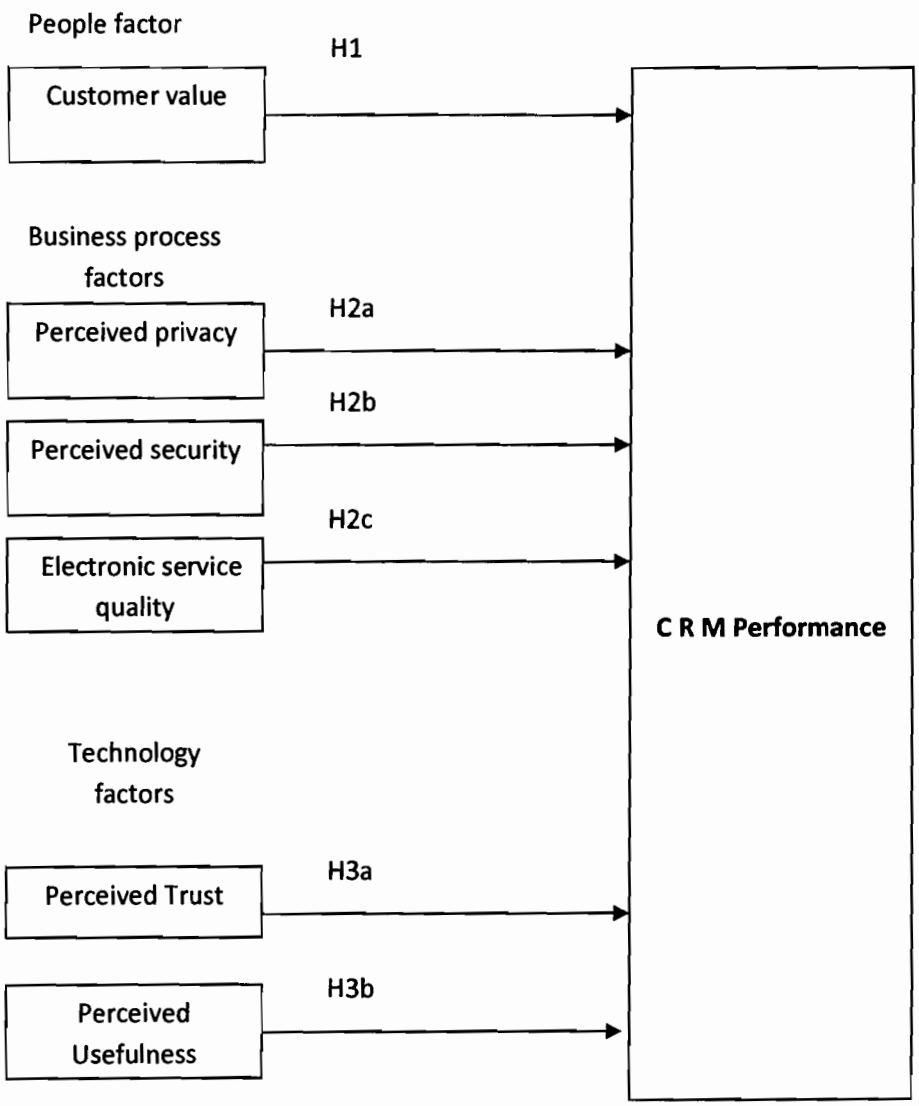


Figure 2.4 Theoretical framework

2.8 THEORY DERIVED

2.8.1 Technology Acceptance Model

Technology Acceptance Model is selected as a basis for this study. Literature about customer attitude to adopt a particular technology has been derived from the Technology Acceptance Model (TAM), initially proposed by Davis (1989) (see Figure 2.5). TAM is derived from Theory of Reasoned Action (TRA). Many researchers have used TAM successfully to predict behavioral intent towards technology usage.

Due to changes in consumer behavior, the original TAM theory has changed and evolved to become TAM 2. Although TAM was influential in predicting and explaining technology acceptance in general, it lacks the specificity of users' opinions on specific system of technology. Due to this reason, researchers (e.g. Davis and Venkatesh, 1996) pursued vigorous validation and extension of the TAM under different environments to increase its explanatory power. TAM 2 has absent attitudes as predictor for intention and behaviors. According to this modification, behavioral intention can be explained by the attitude towards use of the system and its perceived usefulness.

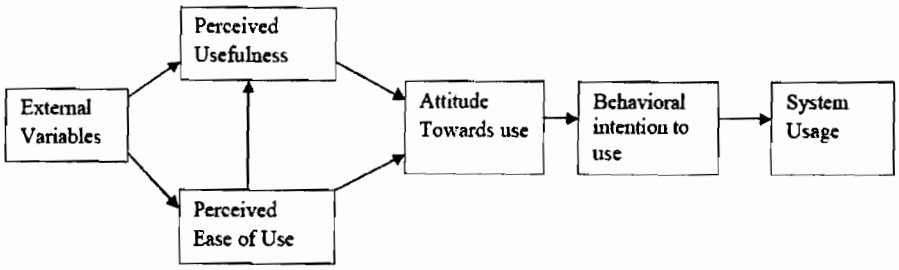


Figure 2.5 The Original TAM theory (Adapted from: Ma & Liu, 2004)

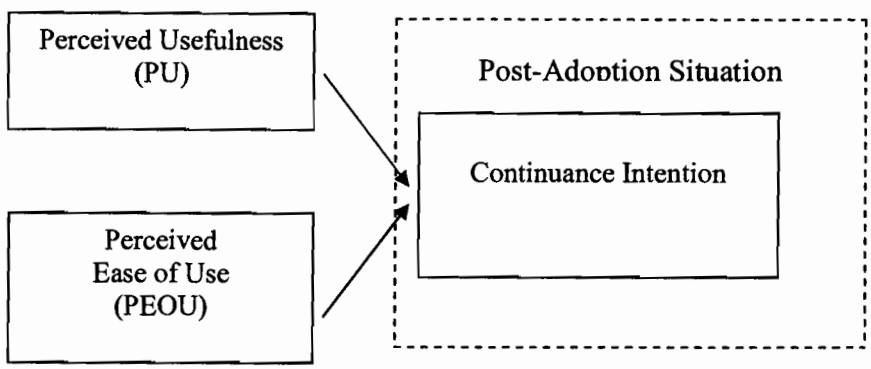


Figure 2.6 Extension of Technology Acceptance Model (Adapted from: Battacherjee, 2001; Hong et al., 2006)

Many studies based on TAM seemed to have implicitly assumed, intentionally or unintentionally, that continued usage is an extension of adoption and used TAM in post-adoption situations (Bhattacherjee, 2001; Hong et al., 2006). Their studies applied TAM to examine users' continuance intentions after they had already adopted and were using the IT (Karahanna, 1999; Taylor and Todd, 1995). For example, Taylor and Todd (1995) examined students' usage intentions of a

computing service facility that had already been widely used by many of them, and Davis (1989) studied IBM employees' adoption of an e-mail system and a text editor that were already in use in the organization at the time of the study. Lederer et al. (2000) studied the active newsgroup users with the TAM framework. More recently, Konana and Balasubramanian (2005) developed a TAM-based model of online investing adoption based on interviews and a survey of experienced online investors.

Hong, Thong and Tam, (2006) conducted a study to compare the relative utility of three prospective models of continued IT usage behavior: (1) Expectation-Confirmation Model in IT context (ECM-IT), (2) Technology Acceptance Model (TAM), and (3) extended Expectation-Confirmation Model in IT context (EECM-IT). One of the most interesting finding was that while all three models are shown to be good models, TAM has the best fit to the data. In terms of explanatory power, TAM also accounted for more variance in user intention to continue IT usage than ECM-IT (TAM: 63%, ECM-IT: 50%).

In summary, in the situations where the participants (users) had been exposed to the technology for an extended period, these studies actually investigated experienced users' intentions to continue using the technology, not the intentions of inexperienced users to adopt it. TAM has implicitly shown its potential to predict users' continued IT usage decisions. Hence, it would be beneficial to use TAM as a prospective model to understand IT usage continuance in our study since CRM performance was operationalized as the intention of customers to stay longer with

service providers by retaining, repeating and continuously usage of electronic banking services due to their previous exposure to the services.

Davis (1989) has suggested adding more variables as predictors of customer intention for the purpose of developing further the models. And as a result, trust has been incorporated in the model and it has received both theoretical and empirical support (Gefen & Straub, 1997). Recently, perceived trust has been repeatedly identified as a direct determinant of behavior intention (Chai & Pavlou, 2002; Gefen & Straub, 2002; Jarvenpaa et al., 1999; Song & Zahedi, 2002). Based on the literature concerning CRM performance and TAM, the researcher then proposes a few dimensions and sub-dimensions as the influential factors of CRM performance. The sub-dimensions are perceived usefulness, perceived trust, electronic service quality, perceived privacy, perceived security and customer value.

2.8.2 Successful Customer Relationship Management Model

At the core, CRM is an integration of technologies and business processes to satisfy the needs of customer during any given instruction (Bose, 2002). In order to help understand the dynamics of CRM in making customers satisfied, Chen and Popovich (2003) introduced the model of Customer Relationship Management Success. This model highlights the importance of people, technology and process factors as the main pillars of successful CRM.

CRM normally involves business process change and the introduction of new information technology, eventually giving importance to effective leadership (Galbreath & Rogers, 1999). CRM evolved from business processes such as

relationship marketing and the increased emphasis is on improved customer retention through the effective management of customer relationships (Bull, 2003). The model below presents and supports the idea of many authors on the importance of technology and business processes in implementing CRM in the organization. Figure 2.7 shows the model of successful implementation CRM.

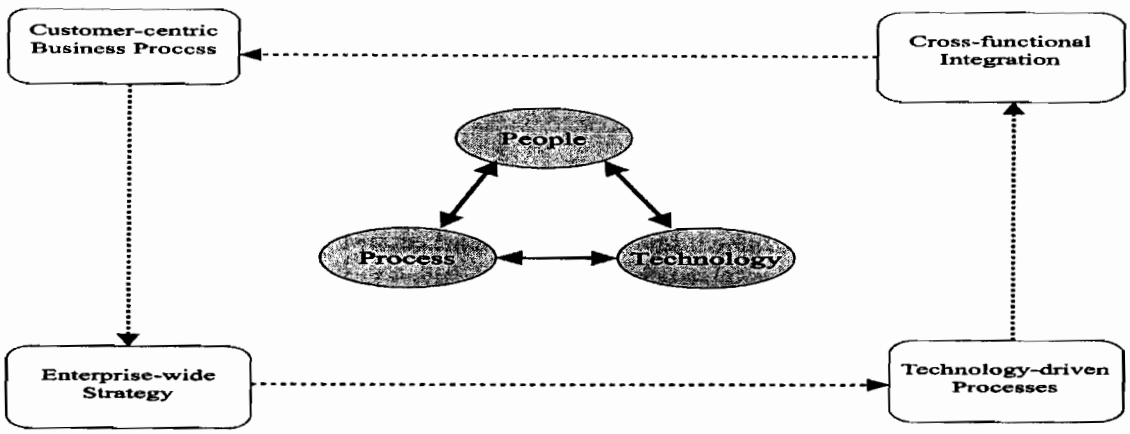


Figure 2.7 A CRM implementation model (Adapted from: Chen & Popovich, 2003)

Chen and Popovich (2003) deeply discussed the three pillars or mainstays that contribute to CRM successful, which are people, process and technology. They highlighted the important of these factors as the main pillars of successful CRM. Therefore, all the influence factors in this study have been chosen from these three pillars such as people factor (customer value), process factors (perceived privacy, perceived security and electronic service quality) and technology factors (perceived trust and usefulness). In other words, the influence part of this framework is developed from our original ideas on reading and reviewing the literatures and based on TAM 2 theory and Chen, and Popovich's (2003) pillars.

The main theses of this study are (i) the three major influence factors categories collectively impact CRM performance; and (ii) each factors category exerts independent influence on CRM performance. The component dealing with the influencing factors of CRM performance in the model draws heavily from the previous research. By splitting the factors into three categories, it clearly shows the different ways in which they affect CRM performance. It also allows for the simultaneous examination of the various influences in order to identify the strength of relation of each factor to CRM performance.

2.9 HYPOTHESES DEVELOPMENT

The Relationship between People's Factor and Customer Relationship Management Performance

Past research has investigated the role of customer value in behavior intention. There is a positive relationship between customer value factor and behavior intention. For example, customer values have positive influence on buying music online (Chan & Lu, 2007), on intention to repurchase (Jen & Hu, 2003), on customer satisfaction (Ismail & Khatibi, 2004; Wang, Lo, & Yang, 2004), and on online purchasing intention (Chen & Dubinsky, 2003). Vatanasombut et al., (2008) also confirmed a positive relationship between customer value and continuance intention on online banking services.

Given that customer relationship management performance requires high customer satisfaction, quality relationship between customer and service providers,

repeat usage and spread word of mouth among the customers, it is hypothesized that services with high customer value are more likely to employ high customer relationship management performance. Therefore, we hypothesized that:

Hypothesis 1: *Customer value is positively related to customer relationship management performance.*

The Relationship between Service Process Factors and Customer Relationship Management Performance

By using extended TAM theory, perceived privacy enhances its role as a predictor for behavior intention (Lallmahamood, 2007). Indeed, past research has confirmed the influence of perceived privacy on Internet banking usage (Lallamahamood, 2007), online shopping (Udo, 2001), e-grocery shopping (Kervenoael et al. (2007), and Internet payment (Singh & Hill, 2003).

Because issues pertaining to information privacy on the Internet become a serious matter especially when it involves online payment (Sheehan & Hoy, 2000), it is therefore reasonable to propose privacy be as one of the possible influencing factors of user intention in electronic banking services.

It is clear that customer privacy is critical in e-commerce transactions and CRM performance, when the users feel his privacy is protected. Consequently, he will put trust on the service provider, get more access to the services, recommends the service to the others, stick with the service provider and perhaps delivers a

positive word of mouth about services. Therefore, this study hypothesized the following:

Hypothesis 2a: *Perceived privacy is positively related to customer relationship management performance.*

Besides perceived privacy, past research has also confirmed the influence of perceived security on behavior intention, especially perceived security and behavior intention in online banking services (Lallmahamood, 2007), behavior intention (Goode & Harris, 2006), online shopping (Udo, 2001), online and mobile bank users (Laforet & Li, 2005), and Web shopping (Salisbury et al., 2001). These findings concur with the argument that perceived security is crucial in behavior intention. As such, the current research proposes perceived security as another main influence for customer relationship management performance. This shows that perceived security can ensure satisfaction, spread word of mouth, and repeat usage of the services and behavioral intention towards the services. Thus, this study hypothesized that:

Hypothesis 2b: *Customer perceived security is positively related to customer relationship management performance.*

In the present research, satisfaction is one of the features of customer relationship management performance. But the effects of e-service quality and its

resulting satisfaction is still at its infancy (Gummerus et al., 2004). However, the limited number of studies on this issue have managed to support the influence of perceived electronic service quality and customer satisfaction in online services, specifically in the relationship between perceived electronic service quality and Web site customer satisfaction (Cristobal, Flavia´n, & Guinali´u, 2007), buyers satisfaction (Yen & Lu (2008), behavior intention (Hackman et al., 2006), brand loyalty (Caceres & Paparoidamis, 2005), and behavior intention in healthcare services (Wu, 2007).

The impact of service quality on customers' behavioral intentions have been empirically supported by several studies that consistently find a positive impact of service quality on customers' behavioral intentions (Anderson, Fornell & Lehmann, 1994; Cristobal et al. (2007) Rust, Zahorik & Keiningham, (1995) and Zeithaml, Berry & Parasuraman (1996). Customers whose perceive high level of service quality will show high level of customer satisfaction. When service quality exceeds customer expectation, he would be willing to the use the service in more access, recommend service provider in positive word of mouth, encourage others to try the new services and establish long lasting relationship with service provider. Thus, this study hypothesized:

Hypothesis 2c: *Electronic service quality is positively related to customer relationship management performance.*

The Relationship between Technology Factors and Customer Relationship Management Performance

The rapid development in technology has facilitated customers in using a variety of systems introduced by service providers. In terms of perceived trust, past research has confirmed a positive relationship between perceived trust and customer intention (Davis, 1989; Davis & Venkentash, 1992; Wang et al., 2003), online trust and purchasing intention (Chen & Barnes, 2007), trust and continuance intention (Vatanasombut et al., 2008), trust and online purchase (Chen & Barnes, 2007), trust and web site loyalty (Flavia´n & Guinali´u, 2006), trust and online banking commitment (Mukherjee & Nath, 2003), trust and adoption of electronic banking (Rexha et al., 2003), and trust and behavior intention in adopting online information service (Chen & Corkindale, 2008).

Trust is an essential enabler to e-CRM and e-Business (Lewicki & Bunker,1995). Shoniregun et al. (2004) found that trust in e-commerce can help to increase customer base market share, reduce the management costs and promote product image. Therefore, customer trust is a critical factor in e-commerce acceptance. When customer trust service provider he will be satisfy, recommend service to his friends and intend to use more service provided by service provider. Therefore, this study hypothesized the following:

Hypothesis 3a: *Perceived of trust on electronic banking services is positively related to customer relationship management performance*

In general, perceived usefulness is referred to as the level of easiness to complete the expected task. Past research has confirmed the positive relationship between perceived usefulness and customer behavior. For example, perceived usefulness is found to positively related to Internet banking (Wang et al., 2003), behavioral intention towards online news services (ONS) (Chen & Corkindale, 2008), customer adaptation intentions (Shih & Fang, 2004), sustainability of virtual communities (Lin, 2007), and towards behavior intention in computer usage (Eastin & LaRose, 2000). Last but not least, Shih (2004) confirmed the influence of perceived usefulness on user acceptance of e-shopping on the Web.

Electronic banking usefulness explains the user's perception to the extent that the system will improve his performance this means the user has a perception of how useful the electronic banking services is in performing his job tasks. This includes decreasing the time for doing the job, more efficiency and accuracy. Furthermore, when customer perceive electronic banking is usefulness, he will be satisfy, reuse the service, recommending service provider to the others and held positive word of mouth. Thus, the next hypothesis is formulated as follows:

Hypothesis 3b: *Perceived usefulness is positively related to customer relationship management performance.*

2.10 SUMMARY

Based on the literature review on the influencing factors of customer relationship management, the following conclusions can be made:

Firstly, research on customer relationship management performance has focused on the influence of people factor, business process or service delivery, and technology factors on customer retention. The people factor is represented by customer value while the business process factors are measured by three dimensions i.e. perceived privacy, perceived security and perceived electronic service quality. For the technology factors, two elements have been chosen: perceived trust and usefulness. In other words, this research investigates the influence of these factors on CRM performance.

Technology acceptance model (TAM) was chosen as a basis for this research. The reason for choosing this model is because it been successfully used in several previous studies related to attitudes, repurchase intention and behaviors of customers when dealing with online technology.

The reviewed literature works as a good basis for developing a model to reflect the factors that influence CRM performance. The following section introduces the model with the chosen factors for this research. Based on this model, the research hypotheses are then formulated and tested to validate the model.

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

In the previous chapter, a discussion on the current state-of-the art literature on customer relationship management has been offered. Toward the end of the chapter, a number of hypotheses have been formulated. In this chapter, a detailed discussion on how the study was actually carried out will be offered especially toward testing the hypotheses developed earlier. Amongst others, this chapter elaborates the study's research design, operationalization of variables, the population and sample of the study, as well as data collection procedures. This chapter ends with a description of the data analysis and the rationale for the statistical techniques used to analyze the data.

3.2 RESEARCH DESIGN

This study was conducted with the intention to obtain a good grasp of customers' perception and values towards the performance of customer relationship management in electronic banking. This study is a cross-sectional in nature where data was gathered once. A survey method was employed because it is appropriate to verify personal and social perceptions, beliefs, and attitudes (Kerlinger, 1973). The unit of analysis for this study is individual who has sufficient experience in electronic banking services. This means that this study treats respective individual's responses as an individual data source.

For this study, Likert scales were used to measure responses since this scale is widely used in market research and has been extensively tested in both marketing and social science (Garland, 1991). In relation to the number of scale points, there is no clear rule indicating the suitable number that should be used (one to five-point Likert scales or one to seven-point Likert scales). However, researchers indicate that a five-point scale is just as good as any other (Sekaran, 2000) that is may reduce confusion to the respondents. To ensure consistency among variables and to avoid confusion among respondents, all items will measured using one to five point Likert scale (Ackfeldt & Coole, 2003).

3.3 OPERATIONALIZATION OF VARIABLES

Customer relationship management performance was operationalized as three dimensions that is; behavioral-based CRM performance (retention, word-of-mouth and repurchase), customer satisfaction, and brand loyalty (Wang et al., 2004). Retention means the intention of customers to keep close relationship for a longer period of time or intention to continue using the services. Word of mouth refers to the intention to recommend the offerings of services to others, and repurchase refers to the decision to accept the next offerings and use more services offered by the bank. Customer satisfaction refers to a post-choice evaluative judgment of a specific purchase event; therefore a satisfied customer will show a strong tendency to be loyal and repeat the purchase of the goods or services. Brand loyalty refers to a customer's favorable attitude towards the provider, thus resulting in repurchasing behavior. In the stochastic approach, loyalty is considered a behavior whereby the

individual who buys the same brand consistently is said to be "loyal" to this brand (Wang et al., 2004).

The influence factors of customer relationship management performance were categorized into three major components, namely, customer value factors, business process factors and technology factors. The first component reflects the customer's opinion of the value offered by the company and this is termed as customer perceived value factor. The customer value factors are operationalized as emotional value, social value, functional value and perceived sacrifice (Wang et al., 2004). Emotional value refers to the utility derived from the effective states that a product or service generates. Social value refers to the social utility derived from the product or service, whereas functional value refers to the utility derived from the perceived quality and expected performance of the product or service. The term "sacrifice" refers to what is given up to acquire or consume a product or service. This includes non-monetary factors such as time, effort or energy (Heskett, Sasser & Schlesinger, 1997; Zeithaml, 1988).

The second component i.e. business process factors consist of three factors: electronic service quality, perceived privacy and perceived security. Electronic service quality is operationalized as reliability, care/help, competence, ease of use, service portfolio and security (Yang, Jun, & Peterson, 2004). Reliability is defined as to the degree to which the company perform the services correctly, accurate transaction and accurate record. Care/help is referred to the degree to which the services helping and caring customers online. Competence is referred to how the provider performs their responsible on customer request and problem handling. Ease

of use is referred to the efforts and easiness of the online structure and service portfolio are regarding to the menu options presentation, product packages, features and online function. The last dimension of electronic service quality is security which referred to safe online transactions, secured information and lower transaction risk.

The second factor, perceived privacy, is operationalized as providers' concern, data protection, user's respect, and users' consent on the online services(Cheung & Lee, 2001; Flavia´n, & Guinali´u, 2006; Janda et al., 2002; O'Cass & Fenech, 2003). Providers' concern are referred to the degree of web site capacity to abides by personal data protection laws; User's respect is referred to how much understand the user's right when obtaining their personal information; user's consent is referred to responsible of companies to protect customer data from other parties.

The third factor, perceived security, is operationalized as online integrity, confidentiality, authentication and non-recognition of transaction (Flavia´n, & Guinali´u, 2006). Online integrity is referred to the integrity of web site in ensuring safe transmission; confidentiality is defined as to what degree the customer data is protected, authentication is referred to technical capacity of services to be intercepted by hackers or other parties; non-recognition of transaction is defined as the degree to which the company can protect the data from being modifying by third parties.

The third component of independent variables is grouped into technological factors. The first technological factor, perceived trust is operationalized as ease of use, functionality, helpfulness, reliability and usefulness (McKnight, 2005). Ease of use is defined as the degree to which the technology will require little mental effort

to use. Functionality is defined as the degree to which the technology will have the capability, functions, or features needed to accomplish one's task(s). Helpfulness is defined as the degree to which the technology will provide adequate and responsive help, and users with helpfulness trusting expectation will anticipate that a system has an adequate help function. Reliability is referred to the degree to which the technology will continually operate properly, or will operate in a consistent, flawless manner (McKnight 2005). The last dimension of trust is usefulness. It is defined as the degree to which technology can enhance one's performance (McKnight 2005). The second technological factor, perceived usefulness, is operationalized as perceived advantages of the services (Chan and Lu, 2004).

Table 3.1 summarizes the key variables, their operational definitions and total number of items used to measure variable.

Table 3.1

Summary of Variables and Operational Definitions

Variables	Operational definition
Customer relationship management performance	Behavior-based CRM performance, brand loyalty, customer satisfaction.
Customer value	Functional value, social value, emotional value and customer perceived sacrifice.
Perceived trust	Ease of Use, Functionality, Helpfulness, Reliability, Usefulness.
Perceived usefulness	Perceived advantages of the services
Perceived privacy	Providers concern, data protection, user's respect, user's consent
Perceived security	Ensure the integrity, confidentiality, authentication and non-recognition of transactions
Electronic service quality	Reliability, care/help, competence, eases of use, service portfolio and security.

3.4 MEASUREMENT

3.4.1 Customer Relationship Management Performance

The dimension of customer relationship management in this research is adopted from Wang et al., (2004). This factor is measured by nine items using five self-rating items on a five-point Likert scale, in which three items reflect behavior-based CRM performance, three items on brand loyalty and three items on customer satisfaction. The reported alpha values in the previous study for the behavior-based CRM performance is .84, brand loyalty .91 and customer satisfaction .92 (Wang et al., 2004). Table 3.2 below shows the items used to measure CRM performance.

Table 3.2

Measurement Items for Customer Relationship Management Performance

	Items
1.	I would like to continue these electronic banking services with the bank.
2.	I would like to recommend the electronic banking services to others.
3.	I would like to keep close relationship with the electronic banking services for a longer period.
4.	I feel disloyal to the offering of electronic banking services by this bank.(R)
5.	The offering of electronic banking services of this bank is my first choice.
6.	The offerings of electronic banking services always meet my expectations.
7.	Even with more choices, I will choose electronic banking services offered by other banks.(R)
8.	Taking my experience with banks, I am satisfied with the offers of the electronic banking services.
9.	The offerings of electronic banking services always meet my desirable level.

(R) denotes items with negatively worded.
Source: Adapted from Wang et al., (2004)

3.4.2 Customer Value

Traditionally, Kotler (1997) argued that customer value can be understood in terms of product value, service value, employee value and image value. This factor is measured by eighteen items adapted from Wang et al., (2004), in which five items reflect emotional value, three items social value, four items functional value and six items perceived sacrifice. All items were measured on a five-point Likert scale format, ranging from '1' "strongly disagree" to '5' "strongly agree." The reported alpha values from the reliability test in the previous study by Wang et al. (2004) are .93 for functional value, .95 for emotional value, .91 for social value and .96 for perceived sacrifices. Table 3.3 below shows the items used to measure customer value.

Table 3.3

Measurement Items for Customer Value

	Items
1.	The electronic banking services offered make me feel confident.
2.	The electronic banking services offered are of high quality.
3.	The electronic banking services have consistent quality.
4.	The electronic banking services delivered are of superior quality.
5.	The electronic banking services are the one that I would enjoy.
6.	The electronic banking services always make me want to use it.
7.	The electronic banking services would give me fulfillment.
8.	The electronic banking services would make me feels good.
9.	The electronic banking services are one that I would feel relaxed about using.
10.	The electronic banking services would not improve the way I am perceived.(R)
11.	The electronic banking services would help me make a good impression of friends.
12.	The electronic banking services would give me a friend's approval or respect.
13.	The electronic banking services are of reasonable cost.
14.	Based on my experience, the electronic banking services offer value for money.
15.	The electronic banking services would be economical.
16.	The electronic banking services are not good for cost savings.(R)

17. The electronic banking services of my favorite bank are value for money.
18. The choice of electronic banking services is a right decision when cost and other expenses are considered.

(R) denotes items with negatively worded.
Source: Adapted from Wang et al., (2004)

3.4.3 Electronic Service Quality

Perceived electronic service quality is measured by twenty items. All items were measured on a five-point Likert scale format, ranging from '1' "strongly disagree" to '5' "strongly agree." The first dimension reliability is measured by three items; care/help is measured by three items on, competence is measured by three items, eases of use is measured by three items on, service portfolio is measured by four items and security is measured by four items. All questions were adapted from Yang et al., (2004) and were tested in their research on customer perception of online banking services. The previous alpha score for this variable is .81. Table 3.4 below shows the items used to measure electronic services quality.

Table 3.4

Measurement Items for Electronic Service Quality

	Items
1.	The electronic banking services interface comprehends my specific needs.
2.	The electronic banking services interface complies with my requests.
3.	The electronic banking services interface gives me individual attention.
4.	The electronic banking services interface gives me personal attention when I encounter serious problems.
5.	The electronic banking services interface through help center has the ability to answer my questions.
6.	The electronic banking services interface properly handles any problem that arises.
7.	My electronic banking transaction is always accurate.
8.	The electronic banking transaction keeps my records accurately.
9.	The electronic banking transaction performs the service correctly the first time.
10.	When the electronic banking interface or instruction promises to do something

by a certain time, it does so.
11. Using the electronic banking services interface requires a lot of effort.
12. The organization and structure of electronic banking services interface is easy to follow.
13. It is easy for me to complete a transaction through the electronic banking interface.
14. The electronic banking services interface has the contents that meet my needs.
15. I feel the risk associated with electronic banking transaction is high.(R)
16. I feel secure in providing sensitive information for electronic banking transaction.
17. The electronic banking service provides a safety to ensure its quality.
18. The electronic banking interface provides me with many useful free services (e.g. message board).
19. The electronic banking interface provides limit ranges of product packages.(R)
20. The electronic banking interface provides services with the features I want.

(R) denotes items with negatively worded.
Source: Adapted from Yang et al (2004)

3.4.4 Perceived Privacy

Perceived privacy is measured by seven items: Two items on providers' concern, two items from data protection, three items from user's respect and user's consent. All items were measured on a five-point Likert scale format, ranging from '1' "strongly disagree" to '5' "strongly agree." It was adapted from Flavia´n, & Guinali´u (2006). The previous alpha score for this variable is .926. Table 3.5 below shows the items used to measure customer perceived privacy.

Table 3.5

Measurement Items for Perceived Privacy

	Items
1.	Electronic banking services show concern for the privacy of its users.
2.	I feel safe when I send personal information to electronic banking services.
3.	Electronic banking services abide by personal data protection.
4.	Electronic banking services only collect user personal data that is necessary for its activity.
5.	Electronic banking services respect the user's rights when obtaining personal

information.

6. Electronic banking services will not provide my personal information to other companies without my consent.
7. Electronic banking services do not send e-mail advertising without the user's consent.

Source: Adapted from Flavia´n, & Guinali´u (2006)

3.4.5 Perceived Security

Perceived security is measured by eight items: Two items for ensuring the integrity, one item for confidentiality, two items for authentication and three items for non-recognition of transactions. All items were measured on a five-point Likert scale format, ranging from '1' "strongly disagree" to '5' "strongly agree." All questions were adapted from Flavia´n, & Guinali´u (2006). The previous alpha score for this variable is .95. Table 3.6 below shows the items used to measure customers' perception on security.

Table 3.6

Measurement Items for Perceived Security

	Items
1.	Electronic banking services have mechanisms to ensure the safe transmission of its users' information.
2.	Electronic banking services show great concern for the security of any transactions.
3.	Electronic banking services have sufficient technical capacity to ensure that no other organization will supplant its identity on the Internet.
4.	I am sure of the identity of these electronic banking services when I establish contact via the Internet.
5.	When I send data to these electronic banking services, I am not sure that they will not be intercepted by unauthorized third parties.(R)
6.	Electronic banking services have sufficient technical capacity to ensure that the data I send will not be intercepted by hackers.

7.	When I send data to electronic banking services, I am not sure they cannot be modified by a third party.(R)
8.	Electronic banking services have sufficient technical capacity to ensure that the data I send cannot be modified by a third party.

(R) denotes items with negatively worded.
Source: Adapted from Flavia´n, & Guinali´u (2006)

3.4.6 Perceived Trust

Items on perceived of trust were adapted from McKnight (2005). This factor is measured by fifteen items. All items were measured on a five-point Likert scale format, ranging from '1' "strongly disagree" to '5' "strongly agree." Three items were for ease of use, three items for functionality, two items for helpfulness, four items for reliability, and three items for usefulness. The previous alpha score for this variable is .925 (McKnight, 2005). Table 3.7 below shows the items used to measure perceived trust.

Table 3.7

Measurement Items for Perceived Trust

	Items
1.	It was easy to get to do what I want through electronic banking services.
2.	It was easy for me to become skillful at electronic banking services.
3.	It was easy to use electronic banking services.
4.	Electronic banking services have the functionality I needed.
5.	Electronic banking services have the features required for my tasks.
6.	Electronic banking services have the overall capabilities I needed.
7.	Electronic banking services provided competent guidance through a help function.
8.	Electronic banking services provided the help I needed to complete tasks effectively.
9.	Electronic banking services do not provide sensible and effective advice.(R)
10.	The reliability of electronic banking services makes me trust it.
11.	Electronic banking services are extremely dependable.
12.	Electronic banking services provided error-free results.
13.	Electronic banking services does not improve my performance.(R)

14. Electronic banking services enhanced my effectiveness.
15. Electronic banking services are useful.

(R) denotes items with negatively worded.
Source: Adapted from McKnight (2005)

3.4.7 Perceived Usefulness

Perceived usefulness was measured by seven items. All items represented advantages of using the services. This factor was measured using five self-rating items on a five-point Likert scale. All questions were adapted from Chan and Lu (2004). This scale was relevant for this study because it was used to capture the customer accepting and use behavior of Internet banking. The original scales were developed by Davis (1989), Davis et al. (1989), Moore and Benbasat (1991), and Karahanna et al., (1999). The previous alpha score for the scales is .98 (Chan & Lu, 2004). Table 3.8 below shows the items used to measure customer perceived usefulness.

Table 3.8

Measurement Items for Perceived Usefulness

	Items
1.	The easier way of conducting electronic transaction makes my banking very useful.
2.	Electronic banking gives me greater control over my finances.
3.	Electronic banking allows me to manage my finances more efficiently.
4.	Electronic banking is inconvenient way to manage my finances.(R)
5.	Electronic banking is more user-friendly than other existing channels.
6.	Electronic banking eliminates time constraint; thus I can use the banking services at any time I like.
7.	Electronic banking eliminates geographic limitation and increases flexibility in mobility; thus I can bank any place that has the facility.

(R) denotes items with negatively worded.
Source: Adapted from Chan and Lu (2004).

3.4.8 Demographic Items

The demographic information captured in this study was gender, age, job status, working experience with the present university, electronic banking issuer and education level. Information regarding age, electronic banking issuer and job experience was in an open-ended format. For questions regarding gender, job status and academic qualification, respondents were required to check the blank provided.

The measures of the variables in this study are summarized in Table 3.9 below.

Table 3.9

Measures of Variables in the Present Study

Variables	Scale and number of Items	Previous reliability scores	Sources
Customer relationship management performance: *Behavior-based CRM performance, brand loyalty, customer satisfaction.*	Likert scale 1-5 (9 items)	.84 - .92	Wang (2004)
Perceived trust: *Ease of use, functionality, helpfulness, reliability, usefulness.*	Likert scale 1-5 (15)	.89 - .96	McKnight (2005)
Customer value: *Functional value, social value, emotional value and customer perceived sacrifices.*	Likert scale 1-5 (18 items)	.91 - .95	Wang (2004)
Perceived privacy: *Providers concern, data protection, user's respect, user's consent.*	Likert scale 1-5 (7 items)	.926	Flavia´n, & Guinalı´u (2006)
Electronic service quality: *Reliability, care/help, ease of use, service portfolio and security.*	Likert scale 1-5 (20 items)	.76 - .86	Yang, Jun, and Peterson (2004)
Perceived security: *Ensure the integrity, confidentiality, authentication and non-recognition of transactions.*	Likert scale 1-5 (8 items)	.953	Flavia´n, & Guinalı´u (2006)
Perceived usefulness: *The advantages of using the services.*	Likert scale 1-5	.924	Chan and Lu (2004)

	(7 items)		
Personal information (Gender, age, job status, academic qualification, working experience, electronic banking issuers)	Open-ended		Self-constructed measure

3.5 STUDY POPULATION AND SAMPLE

The population of this study is users of electronic banking. The sample of this study comprised lecturers from three public universities in the northern states of Malaysia: Universiti Utara Malaysia (UUM), Universiti Sains Malaysia (USM) and Universiti Malaysia Perlis (UNIMAP). Past research has proved that major users of electronic banking are graduates who are holding executive posts or professionals (Ndubisi & Sinti, 2006). From their findings, we can say that respondents with higher income and better education like lecturers are more likely to use electronic banking than other groups of customers (Ndubisi & Sinti, 2006). Indeed, consumers' income levels and education play a vital role in their adoption and usage of telebanking services (Liu, 2007). Based on this justification, lecturers were chosen as the population of the study. Although this study only focused on university lecturers in the northern region, their views were representative of other regions based on homogeneous criteria in term of recruitments, job specification and working environment (Service Circular, No. 20/2008, Department of Public Service). Given the nature of the study, a probability (proportionate stratified) sampling was chosen. To obtain a representative cross-section of the population, the sample must drawn from a wide range of schemes of study (Mokhlis et al., 2009) such as difference faculties in one university. By choosing these three universities in the northern, there is still a variation in term of their specialization, as example USM is categorized as research and APEX University UUM grouped as Teaching University and UNIMEP grouped as Technical University. Since there is a variation in term of teaching orientation in a variety background, the chosen of these three universities in the north are representative.

The table 3.10 below shows the number of lecturers' population according to their institution.

Table 3.10

Population of Lecturers in Three Selected Universities

Institutions	Total
Universiti Sains Malaysia (USM)	1,104
Universiti Utara Malaysia (UUM)	1,256
Universiti Malaysia Perlis (UNIMAP)	195
Total	2,555

Sources: Ministry of Higher Education, 2007 (http//www.moe.gov.my/ retrieved on 27 May, 2007).

3.6 SAMPLING DESIGN

To select the appropriate sample, stratified random sampling was used. Level of education – masters, and doctoral degrees - was employed to stratify the lecturers' in the three universities. The rationale for such stratification is because academic qualifications can provide a variation in terms of the annual income, length of experience and age. Indeed, when studying consumer preferences, stratifying customers on the basis of life stages, income levels, and the likes to study buying patterns are all common examples of the use of stratification as a sampling design technique (Sekaran, 1992). This sampling design is more efficient than the simple random sampling design because, each important segment of the population is represented, and is more valuable and differentiated information is obtained with respect to each group (Sekaran, 2005).

Lecturers with at least master's and PhD qualifications from three universities located in northern region (Kedah, Northern Perak, Perlis and Penang) are the population of this study. Total populations of lecturers from the universities (USM, UUM and UNIMAP) are 2,555 as shown in table 3.11 (Sources: Ministry of Higher Education, 2007).

Table 3.11

Sample of the Study Using Stratified Sampling (13%)

Qualification	Number of elements	Ratio (Percentage) 13% plus 40% extra
PhD	1,396	253
Master's	1,159	211
Total	2,555	464

According to Krejcie and Morgan (1970) table, the sample size for the 2,555 is 335, so that the ratio of sample to select is 335/2555 X 100 = 13% of the population.

In ensuring a better responses and minimizing the responses risk, normally the extra 30%-40% of questionnaires will be send to particular respondent (Gay and Diehl, 1999), that bring the sample for PhD's lecturers are 253 (191 plus 40% of 191) and 211 for Master's (158 plus 40% of 158). However, we decide to send 250 questionnaires equally to each stratum, in total the sample size chosen was 500. A better result can only be derived from large sample and the results are more generalized (Hair et al., 2007). Moreover, Tabachnick and Fidell (1996) suggested that, "it is comforting to have at least 300 cases for factor analysis "(p. 640). 500 cases chosen by researcher are considering enough to ensure at least 300 cases were entered to factor analysis after deleting outliers.

The proportionate stratified sampling design used in this study is the most representative and generalize if compared to non-probability method of sampling (Sekaran, 2003). Furthermore, the location of the universities that concentrates in the same region makes the data collection activities more efficient and within the capacity of researcher. This is also in line with the time constraints faced by the researcher where the time given to complete the PhD is within 3-4 years.

3.7 DATA COLLECTION PROCEDURES

Once the number of samples has been identified using stratified sampling, the next procedure in the study involved the selection of respondents. Simple random sampling has been used to select the respondents from their name list. The lists of 2,555 lecturers name obtained from the registrar's department of each university are combined and re-arrange according to their academic qualifications (PhD or Master's). The numbers are given to the entire name in the list, and then this numbers were keyed-in in computer for random selection process. Using SPSS package, 250 numbers of lecturers are randomly selected from listed of lecturers with PhD and similar method undertaken for lecturers with Masters Qualification. SPSS package has been used for the selection to ensure all the numbers have equal chance to be selected due to simple random sampling rules. Based on the list of numbers selected by the SPSS package, the particular name of lecturer's are marked (/) in their name list. Choosing the right sample size is definitely important because a reliable and valid sample can enable a researcher to generalize the findings from the sample of the population under investigation (Cavana, Delahaye, & Sekaran, 2000).

Once the entire respondents have been identified, the next procedure in the study involved distribution of the questionnaires. Questionnaires were distributed to the respondents by mail, email and personal distribution. Accompanying the questionnaire was a cover letter from the researcher requesting a prompt response and research contract promising complete anonymity. The respondents were given two weeks to complete the questionnaires and those who did not respond were followed up by sending reminding letters to them. A total of four weeks were spent to obtain responses. To differentiate the response from each qualification group,

different colors of questionnaire cover has been used, where pink for PhD lecturers and light green for Master's lecturers.

The researcher did a follow up for those who did not return in the given time by calling and emailing them. In fact, it was evident that most of the respondents could not submit the questionnaire within the specific time. Therefore, respondents were given another one-week time to accomplish the task; nevertheless, the extension did not work out as expected.

The return of questionnaires was very quite slow during the given period of time. Consequently, within a period of about two months (from 10th of May 2007 to 15th July 2007), only 350, out of 500 questionnaires were returned to the researcher. However, from this number, only 307 (or 61.4%) were useable and acceptable for the subsequent analysis. Many argued that for a cultural and educational research, 70% response rate are consider good but according to Gay and Diehl (1992) 50% response is accepted. Furthermore, Jobber, Mirza and Wee (1991) found that the average of mail survey response rate in Malaysia is only 16.7 percent, which means 61.4 % returned from the present research is considered good. This high percentage response is due to repeated follow-up by personal visit, phone, and short message system (SMS) and actual visit to their office.

3.8 PILOT STUDY

Before deciding on the actual instrument to be utilized in this study, a pilot study was conducted using a convenient sample of 35 lecturers from Universiti Utara Malaysia. The researcher sat with the respondents while they were completing the questionnaires to identify difficulties in understanding the questions and to check on the ease of completion. Each respondent took

approximately 20 minutes to complete the entire questionnaire. As expected, there was some confusion on the sentences in the questionnaire. Based on the feedback gathered in the pilot test, the questions were further improved to facilitate completion of the final version of the questionnaires. For example, some vague sentences were noted and corrected. The final version of the questionnaire can be seen in the appendix.

The reliability test for each instrument was calculated using the pilot study data. One of the selection criteria of past instruments was internal consistency of the scales using Cronbach's alpha reliability coefficients. The results on measures of the pilot study are shown in Table 3.12. The reliability estimates range from .76 to .94 and this is generally considered sufficient for research purposes (Nunally, 1978). This means that the scales can be regarded as relatively reliable.

Table 3.12

Reliability Coefficient for Multiple Items in Pilot Study (n=35)

Variables	Alpha (ά)
CRM performance	.943
Perceived trust	.906
Customer value	.928
Electronic service quality	.937
Perceived security	.929
Perceived usefulness	.928

3.9 DATA ANALYSIS

For the purpose of data analysis and hypotheses testing, several statistical tools and methods were employed with the help of SPSS software, version 13. These include factor and reliability analyses to test the goodness of measures, descriptive statistics to describe the characteristic of respondents, test of differences to test non-response bias and to compare the customer

relationship management performance by the respondents with different demographic profiles, correlation analysis to describe the relationship between variables and regression analyses to test the influence of customer value, business process factors and technology factors on customer relationship management performance.

3.9.1 Factor and Reliability Analyses

One important step in data analysis is to understand the dimension of the variables in the proposed model or relationships in empirical research (Hair et al., 1998). Toward this end, factor analysis was conducted to identify the structure of inter-relationship (correlations) among a large number of items. This was done by defining common underlying dimensions, known as factors (Hair et al., 1998). In the present study, the cut-off point chosen for significant factor loading was .30, which was suggested by Hair et al. (1998).

In assessing the appropriateness of factor analysis, Hair et al. (1998) suggested that as a general rule, the minimum sample size should be at least five times as many observations as there are variables to be analyzed. The more acceptable size would have a ten-to-one ratio. The present study comprises eight variables, and therefore the minimum sample size needed was 40 (5 X 8 variables) or preferably 80 observations (10 X 10 variables).

Another test to determine the appropriateness of factor analysis is the Barlett test of sphericity which examines the presence of sufficient number of significant correlations among the variables. It provides the statistical probability that the correlation matrix has significant correlations among at least some of the variables (Hair et al., 1998).

In addition, the measure of sampling adequacy (MSA) was examined so as to order or quantify the degree of correlations among the variables and the appropriateness of factor

analysis. Hair et al. (1998) indicated that the measure can be interpreted with the following guidelines: .80 or above, meritorious; .70 or above, middling; .60 or above, mediocre; .50 or above, miserable; and below .50, unacceptable. In the present study, the MSA value for each variable was first examined and those values falling to the unacceptable range were excluded. Once the individual variables achieved an acceptable level, then the overall MSA was evaluated before decision on continuance of the factor analysis was made.

To test the internal consistency of the measurement, reliability analysis was conducted on the factors extracted using the recommendation from Nunally (1978). In general, the closer the reliability coefficient gets to 1.0, the better it would be. Sekaran (2005) noted that reliability less than .60 is considered poor, those in the .70 range are acceptable, and those over .80 are good. However, for the purpose of this present study, a minimum reliability (Cronbach's Alpha) value of .50 was set, which is the threshold recommended by Nunally (1978) for exploratory research. For the early stages of research, as in the case in this study, Nunally (1978) further suggests that reliabilities of .50 to .60 are indicative of instrument reliability (Wright, Pearce, & Bushbin, 1997). The minimum of .50 is consistent with other researchers such as Chee and Peng (1996), Nicholson and Goh (1983), and Wright et al. (1997).

Since there are some negative worded items in the questionnaire, all the negative worded items were reversed coded before the items were submitted for reliability test. In the case when the coefficient alpha was smaller than .70, the item with the lowest corrected item-to-total correlation was removed until the .70 level was met (Pallant, 2001).

3.9.2 Descriptive Statistics

To acquire a feel of the data, descriptive statistics (mean values and standard deviations) for all the variables of interest were obtained. The purpose of descriptive analysis was to present raw data into a transformed form that will make them easy to understand and interpret.

3.9.3 Test of Differences

T-test was used to see if there is a statistically significant difference in the mean scores for two groups of variables (gender) and marital status was used to see if there is a statistically significant difference between the early and the late responses in terms of their demographic profiles. T-test was also used to see if there is a statistically significant difference in the mean scores for two groups of variables in terms of their level of customer relationship management performance.

One way analysis of variance (ANOVA) was employed to examine whether there exists any difference in the level of customer relationship management performance performed by demographic variables with more than two categories (that is age, academic qualification and working experience). As ANOVA test assumes equal variances, the Levene's test for homogeneity of variance was first examined in order to ensure that the assumptions of homogeneity of variance have not been violated.

3.9.4 Correlation Analysis

Pearson correlation was used to describe the strength and direction of the relationship between two variables. In this study, the relationship between customer value, business process factors and technology factors on customer relationship management performance were examined using

this analysis. A Positive correlation indicates that as one variable increases, so do the others. A negative correlation indicates that as one variable increases, the other decreases. A perfect correlation of 1 or -1 indicates that the value of one variable can be determined exactly by knowing the value of the other variable. On the other hand, a correlation of 0 indicates no relationship between the two variables.

3.9.5 Multiple Regressions

Multiple regressions are a more sophisticated extension of correlation and are used to explore the predictive ability of a set of independent variables on one dependent variable (Pallant, 2001). In order to test the hypotheses developed in the present study, multiple regression analyses were conducted. Besides that, the amount of variance explained by influencing factors of customer relationship management performance was examined through this analysis.

Since multiple regression is very sensitive to outliers, that is standardized residual values above about 3.3 (or less than -3.3) (Pallant, 2001), they were detected by case wise diagnostics in the regression analysis. To minimize the effect of outliers, they were deleted from the data set. Before the regression results are considered valid, the degree of multicollinearity was examined by considering the variance inflation factor (VIF) and the condition indices for all the variables. According to Hair et al. (1998), the VIF should be closed to 1.00 to indicate little or no multicollinearity. They further suggest that a cutoff value of 10.00 is an acceptable VIF.

3.10 SUMMARY

As a summary, a detailed discussion on how the study was actually carried out has been discussed. Amongst others, this chapter elaborates the study's research design, operationalization of variables, the population and sample of the study, as well as data collection procedures. This chapter ends with a description of the data analysis and the rationale for the statistical techniques used to analyze the data.

CHAPTER 4

FINDINGS

4.1 INTRODUCTION

This chapter presents the results of data analysis. Firstly, this chapter gives an overview of the data collection. Secondly, it presents the profile of the respondents. It then follows with analysis on goodness of measures to test the validity and reliability of the variables. Finally, the results of hypotheses testing are presented.

4.2 OVERVIEW OF DATA COLLECTED

4.2.1 Response Rate

For data collection purposes, 500 questionnaires were distributed to the lecturers of three universities in the northern state of Malaysia. Equal number of questionnaires distributed to the lecturers with PhD and Master's degree, 250 questionnaires for each groups. Out of this number, 350 were returned of which 43 were excluded because they contained too many missing values. Thus, a total of 307 questionnaires were considered valid and were used for empirical analysis, giving a response rate of 61.4 percent. The sample size was adequate and the response rate obtained was comparable to several studies using lecturers such as 40 percent by Wang et al. (2004).

4.2.2 Test of Non-Response Bias

As is the case in any study relying on voluntary participation, there is always possibility that respondents and non-respondents differ in some significant manner (Matteson et al., 1984). Due to the difficulty associated with identification of non-respondents' characteristics in anonymous research, it is necessary for an alternative test of non-response to be conducted.

According to Armstrong and Overton (1977), non-respondents were assumed to have similar characteristics to late respondents. This procedure involves breaking the sample into early responses (that is, returns received within two weeks after distribution) and late responses (those returns received after two weeks of distribution) and then conducting chi-square test on the demographic characteristics of the respondents.

There were 134 respondents classified as early responses and 173 were late responses. Descriptive test has been done to check the different mean scores between the two groups.

Table 4.1

Mean Scores for Early and Late Response (n=307)

	Batch	N	Mean	Std. Deviation	Std. Error Mean
Age	Early response	134	2.716	1.479	.127
	Late response	173	2.445	1.472	.111
Academic qualification	Early response	134	1.776	.667	.057
	Late response	173	1.670	.665	.050
Work experience	Early response	134	2.851	1.329	.114
	Late response	173	2.619	1.322	.100

Table 4.1 and Table 4.2 display the result of the non-response test. The p values of the analysis revealed no statistically significant difference between the two groups (significant $p < 0.05$). Thus, we can conclude that non-response bias did not significantly affect the generalizability of the findings of this study. Therefore, the analysis was carried out on full responses.

Table 4.2

t-Test between Early and Late Response by Age, Academic Qualification and Work Experience (n=307)

Variables	Sig.
Age	.111
Academic qualification	.170
Work experience	.129

Note: The critical values were all not significant

4.3 PROFILE OF THE RESPONDENTS

Table 4.3 presents the profile of the respondents. One hundred and fifty-eight (51%) of the respondents are females and 149 (49%) males. Two hundred and eighty-eight (94%) of the respondents are Malays, 6 (2%) Chinese, and 13 (4%) Indians. This is consistent with the industry standard where the previous statistical report shows that public university lecturers are monopolized by Malays (Ministry of Higher Education Statistic, 2006). For marital status, majority of the respondents (76 %) are married, 63 (21%) still single, and 12 (3%) are either divorced or widowed.

In general, 141 (46%) respondents have more than ten years teaching experience. Twenty five (8%) respondents have served between seven and ten years,

46 (15%) between four and seven years, and 92 (30%) respondents less than four years. This is in line with the age structure where most of the respondents are above 40 years old (31%). Ninety two (15%) of them are at the age of between 36 and 40 years old, 61 (20%) between 31 and 35 years, and 107 (35%) under 30 years old. In terms of academic qualification, 205 (67%) completed their masters' degree and 102 (33%) are PhD holders.

In terms of salary, 218 (71%) respondents receive annual income between RM35,000 and RM45,000, 47 (15%) between RM45,000 and RM55,000, and 42 (14%) respondents earn above RM 55,000 annually. In terms of electronic banking experiences, 109 (45%) respondents have more than 8 years experience in using electronic banking services, 45 (15%) between five and seven years, and 87 (28%) between two and four years.

Table 4.3

Profile of the Respondents

Variables	Categories	N	(%)
Gender	Male	149	49
	Female	158	51
Race	Malay	288	94
	Chinese	6	2
	Indian	13	4
Marital status	Married	232	76
	Single	63	21
	Others	12	3
Work experience	1 – 4 years	92	30
	4 – 7 years	47	15
	7 – 10 years	25	8
	More than 10 years	143	46
Age	< 30 years	106	34
	31 – 35 years	60	20
	36 – 40 years	46	15

	41 – 45 years	62	20
	46 – 50 years	23	8
	> 50 years	10	3
Academic qualification	Masters	205	67
	PhD	102	33
Annual salary	RM 35,000 – 45,000	218	71
	RM 45,000 – 55,000	47	15
	> RM 55,000	42	14
Electronic banking experience	< 1 year	39	12
	2 – 4 years	87	28
	5 – 7 years	45	15
	8 – 10 years	27	9
	> 10 years	109	36

4.4 GOODNESS OF MEASURES

4.4.1 Construct Validity

As mentioned in Chapter 3, most of the items used to measure the variables have been adopted from the published literature. Even though the borrowed measurements have been confirmed of its discriminate and convergent validity, it is felt necessary to re-examine the validity of these measures. This is because this study is undertaken in the Malaysian context whilst previous studies were done in the West. There are sufficient published literatures on customer relationship management in other countries, particularly in the west, where the environment and culture are entirely different from Malaysia.

In order to ascertain whether the measurements used in this study have construct validity, that is, they measure what they are supposed to measure, exploratory factor analysis was conducted on all items measuring the constructs of, customer relationship management performance, customer value, perceived trust,

perceived usefulness, perceived privacy, perceived security, and electronic service quality.

4.4.2 Results of Exploratory Factor Analysis

For factor analyses purposes, the items in the questionnaire are grouped into two components. The first component was customer relationship management performance, consisting of items in Section E of the questionnaire. The second component comprises of all the influencing variables located in Section B and Section D in the questionnaire. Factor analysis was based on principal component method with Varimax rotation for all components. The results for each factor analysis conducted are summarized in Appendix A-F.

4.4.2.1 Customer Relationship Management Performance

The factor analysis conducted on customer relationship management performance shows the Kaiser-Meyer-Okin value of .925, exceeding the recommended value of .5 (Hair et al., 1998) or above .6 (Pallant, 2001) and the Barlett's test of sphericity was highly significant ($p = .00$), supporting the factorability of the correlation matrix. Furthermore, an examination of the measure of sampling adequacy for each item falls in the acceptable range of between .70 and .90 (see Appendix C). These indicate that the assumptions of factor analysis were met. Principal component analysis revealed the presence of only one component with an eigenvalue exceeding one. This factor captured 69.61 percent of the total variance in the items.

As shown in Table 4.4, factor loadings are between .73 and .88. Reliability (Cronbach's Alpha) for this factor is .94, which indicates high reliability. Item-to-total correlations revealed that removal of any item would not increase the alpha beyond .94, thus supporting the inclusion of all scale items.

Table 4.4

Factor and Reliability Analyses on Customer Relationship Management Performance

Items	Factor Loading
• Even with more choices, I will not choose other bank electronic banking service.	.883
• The electronic banking services offering of this bank is my first choice.	.856
• I would like to keep close relationship for a longer period with my electronic banking services.	.849
• Taking my experience with banks, I am satisfied with what these electronic banking services offer.	.848
• I would like to continue these electronic banking services with the bank.	.843
• The electronic banking services offerings always meet the desirable level.	.836
• The electronic banking services offerings always meet my expectation.	.835
• I would like to recommend these electronic banking services offerings to others.	.821
• I feel I am loyal to this electronic banking services offering of this bank.	.729
Eigenvalue	6.26
% of variance	69.61
Cronbach's Alpha (*a*)	.94
Kaiser-Meyer-Olkin Measures of Sampling Adequacy	.925
Barlett's Test of Sphericity: Approx Chi-Square	2328.161
Df	36
Sig.	.00

4.4.2.2 Influencing factors

For the influencing factors, factor analysis was conducted based on the 18 questions of customer perceived value, 7 questions of perceived privacy, 8 questions of perceived security, 15 questions of perceived trust, 7 questions of perceived usefulness and 20 questions of perceived electronic service quality.

Table 4.5

KMO and Bartlett's Test for the Influencing Factors

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.883
Bartlett's Test of Sphericity: Approx. Chi-Square	27873.637
Df	3081
Sig.	.000

As shown in Table 4.5, for all the 79 items, the overall value of Kaiser-Meyer-Olkin was found to be .88. As shown in Appendix C, upon a close inspection of the individual MSA value, all 79 items have values within the acceptable range of between .73 and .93. Furthermore, the result of the Barlett test was highly significant ($p = .00$), which indicates that the assumptions of factor analysis were met.

Table 4.6

Factor Loadings for the Influential Factors

Items	1	2	3	4	5	6	7
Factor 1							
POT5	**.834**						
POT2	**.770**						
POT3	**.770**						
PU1	**.769**						
POT4	**.736**						
PU7	**.731**						
POT8	**.770**						
POT6	**.764**						
PU6	**.742**						
Factor 2							
ESQ4			**.832**				
ESQ6			**.773**				
ESQ3			**.776**				
ESQ5			**.803**				
ESQ2			**.672**				
Factor 3							
CPV5		**.755**					
CPV6		**.724**					
CPV8		**.754**					
CPV7		**.671**					
CPV11		**.626**					
CPV9		**.658**					
CPV10		**.649**					
CPV2		**.551**					
CPV12		**.755**					
Factor 4							
POP6						**.783**	
POP4						**.758**	
PU4						**.653**	
POP7						**.667**	
PU2						**.597**	
Factor 5							
POS7					**.850**		
POS8					**.836**		
POS6					**.757**		
POS5					**.697**		
Factor 6							
CPV13				**.830**			
CPV16				**.776**			

CPV14				**.766**			
CPV17				**.756**			
CPV18				**.686**			
Factor 7							
POT13							**.722**
POT12							**.629**
POT14							**.552**
Eigen value	15.181	4.330	2.388	2.343	2.205	1.451	1.162
% of variance	37.952	10.826	5.970	5.857	5.511	3.626	2.906
Alpha	.943	.901	.913	.834	.908	.906	.819
Kaiser-Meyer-Olkin Measure of Sampling Adequacy							.887
Bartlett's Test of Sphericity: Approx. Chi-Square							10923.344
Sig.							.000

From the output, measures of the influencing factors produced 13 factors with eigen-values more than 1 (refer to Appendix). These 13 factors captured 75.48 percent of the total variance of the items. However, after Varimax rotation, three factors (factor 10, 12 and 13) were found to have cross loadings in more than three times in the previous groups, therefore categorized as unstable, and eliminated from further consideration (Hair et al., 1998). As a result, one item each in factor five and factor ten is deleted. By deleting one item in factor ten, only one item was left in factor 10. As a result, this factor was further dropped from subsequent analysis. A common practice is to delete these items which will reduce inconsistent correlations among the factors and consequently improve the scale reliability (Hair et al., 1998).

A quite number of cross loadings were identified from the outcome and some items loaded on more than two factors. A common practice is to delete these items because they reduce the inconsistent correlations among the factors and to consequently enhance the scale reliability (Hair et al. 1998). As recommended, these items were deleted. With 9 factors remaining, the factor loadings of the items were between .41 and .82. For factor 1, nine items were retained after deleting the items

that load on more than two factors. For factor 2 the reliability test indicates that, the alpha value would increase to .90 with removal of item ESQ11. Therefore, this item is deleted from factor 2. For factor 3, nine items were retained after deleting item CPV1, CPV3 and CPV4 because of cross loadings. For factor 4, only five items remained after item POP3 and PU3 were deleted due to the cross loadings. For factor 5, only four items were retained when POS3 and POS4 have a cross loadings. For factor 6, only five items were retained because CPV15 crossed over more than three factors. For factor 7, only three items remained because item POS1 had a cross loadings. For factor 8, only three items remained but all items had cross loading to minimum two factors and had loading problem. The same scenario occurred in factor 9 whereby two items retained showed cross loadings and one of them had cross loading to more than two factors; therefore factor 8 and 9 were deleted for further analysis.

On the basis of the factor loadings, the 7 factors remained are named accordingly. The first factor is dominated by questions related to trust of the respondents on electronic banking; therefore the factor is named perceived online trust (McKnight, 2005). The second factor is dominated by questions related to on-line service quality such as responsiveness and competence; therefore this factor is labeled electronic service quality. The third factor describes the emotional value of the electronic banking perceived by customers, and therefore it is labeled customer perceived emotional value. The fourth factor is related to data protection and information safety, and therefore it is named perceived online privacy.

The fifth factor deals with respondents' view on the technical capacity of electronic banking in protecting their information from being abused by the third party. This factor is named perceived online security. The sixth factor is dominated by questions related to the economic value of the services provided. It is named as perceived economic value. The seventh factor is labeled perceived usefulness as it deals with questions related to the ability of respondents to complete their task using electronic banking. Table 4.7 below shows the comparison between the original dimension and final dimension (after factor analysis).

Table 4.7

Comparing Original Dimension to Final Dimension after Factor Analysis

Original dimensions	Dimensions derived after factor analysis
Trust	Trust
Electronic service quality	Electronic service quality
Customer value	Perceived economic value
	Perceived emotional value
Perceived privacy	Perceived privacy
Perceived security	Perceived security
Usefulness	Usefulness

4.4.3 Reliability Test

Table 4.8 below summarizes the reliability test of the measures (after taking into consideration of deleted items). As shown, the Cronbach alphas of the measures were all comfortably above the lower limit of acceptability that is > .5. Hence, all the measures were highly reliable.

Table 4.8

Reliability Coefficients for the Variables in the Study

Variables	Number of items	Reliability
Customer relationship management performance	9	.94
Trust	9	.96
Electronic service quality	5	.91
Perceived emotional value	9	.91
Perceived privacy	5	.88
Perceived security	4	.91
Perceived economic value	5	.91
Usefulness	3	.84

4.5 DESCRIPTIVE ANALYSES

4.5.1 Major Variables

Descriptive statistics for the final list of variables of the study are shown in Table 4.9. For ease of interpretation, the ranges of five point Likert-scales were categorized into equal sized categories of low, moderate and high. Therefore, scores of less than 2.33 [4/3 + lowest value (1)] is considered low; scores of 3.67 onward [highest value (5) – 4/3] is considered high and those in between are considered moderate.

From Table 4.9, the mean values for customer relationship management performance, perceived online trust, perceived emotional value, perceived economic value, and perceived usefulness fall in the range of 3.67 and 3.92. Clearly this indicates that respondents perceived high level of customer relationship management performance offered by the electronic banking. The electronic banking services are highly perceived as trustable, useful, economical, and contain emotional

value. However in terms of privacy, security and electronic service quality, the mean scores are at the moderate level.

Table 4.9

Descriptive Statistics for Dimensions of Variables

Dimensions (Variables)	Mean	SD	Result
Customer relationship management performance	3.92	.62	High
Trust	3.90	.56	High
Electronic service quality	3.66	.60	Moderate
Perceived emotional value	3.76	.59	High
Perceived privacy	3.62	.61	Moderate
Perceived security	3.48	0.63	Moderate
Perceived economic value	3.67	0.63	High
Usefulness	3.69	0.63	High

4.5.2 Level of Customer Relationship Management Performance

Table 4.10 shows the mean and standard deviation of the level of customer relationship management performance of electronic banking services perceived by the customers. To answer the first research question, with the mean score of 3.92 on a five point Likert scale, it shows that respondents tend to perceive high level of customer relationship management performance. With standard deviation of .62, it indicates that statistically, the variations of customer relationship management performance of electronic banking services perceived by the respondents are high.

Although it is not stated as the objective of the present study, it is also interesting to explore if the level of customer relationship management performance of electronic banking perceived by the respondents differ across their profiles. To do this, independent t-test is used to evaluate the differences in the perception of electronic banking customer relationship management performance among

respondents with different gender and marital status. A summary test of the differences is tabulated in Table 4.10. There was no statistically significant difference in the mean scores of customer relationship management performance perceived by respondents by gender and marital status.

Table 4.10

Customer Relationship Management Performance by Gender and Marital Status (N=307)

Independent variables	*M*	SD	*F*-value	p-value
Male	3.96	.63	.046	.83
Female	3.86	.61		
Married	3.96	.61	.182	.67
Single	3.85	.63		

Note: *p < .05

The differences in the level of customer relationship management performance were explored in terms of ages, academic qualification, length of experience working and length of electronic banking experience by the respondents. Analysis of variance (ANOVA) is used to test the difference between these variables. Table 4.11 summarizes the results of the test. It was found that the level of customer relationship management performance as perceived by the respondents did not vary by race ($F = .76$; $p = .47$), age groups ($F = 1.28$; $p = .27$) and academic qualifications ($F = .66$; $p = .52$). However, the level of customer relationship management performance perceived were found to be different by length of working experience ($F = 5.23$; $p = .02$), length of experience in electronic banking ($F = 4.89$; $p = .01$) and respondent's annual salary ($F = 3.80$; $p = .005$).

Table 4.11

Customer Relationship Management Performance by Age, Race and Academic Qualification (N=307)

Independent variables	Categories	M	F-value (p value)
Age	= 30	3.86	1.28 (.27)
	31- 35	3.86	
	36-40	3.95	
	41-45	4.06	
	46-50	3.94	
	> 50	3.67	
Race	Malay	3.90	0.76 (.47)
	Chinese	3.96	
	Indian	4.11	
Annual salary	35K – 45K	4.00	3.80 (.005)
	45K – 55K	4.18	
	> 55K	3.78	
E-banking experience	< 1 yr	3.69	4.89 (.001)
	2-4 yrs	4.07	
	5-7 yrs	3.73	
	8-10 yrs	3.71	
	> 10 yrs	3.99	
Work experience	1-4 yrs	3.86	5.23 (.02)
	4-7 yrs	3.97	
	7-10 yrs	3.49	
	> 10 yrs	4.00	
Academic qualifications	Master's	3.89	.66 (.52)
	PhD	4.07	

The level of customer relationship management performance was found to be perceived differently by respondents with different lengths of working experience. A summary test of the significant differences is tabulated in Table 4.12. With regards to their working experience, the post-hoc analysis shows that respondents with less than four years of experience perceived higher level of customer relationship management performance than those with 7-10 years

experience. The level of customer relationship management perceived by the respondents found to be different between those with 4-7 years experience and with 7-10 years experience. Furthermore, respondents with more than 10 years experience were found to perceive higher customer relationship management performance than those with 7-10 years working experience.

Table 4.12

Test of the Significant Differences in the Level of Customer Relationship Management Performance by Working Experience (N=307)

Work experience (I)	Work experience (J)	Mean difference (I-J)	Sig.
1 – 4 yrs	4-7	-.10931	.751
	7-10	.36454*	.043
	> 10	-.14079	.314
4 – 7 yrs	1-4	.10931	.751
	7-10	.47385*	.010
	> 10	-.03148	.990
7 – 10 yrs	1-4	-.36454*	.043
	4-7	-.47385*	.010
	> 10	-.50533*	.001
> 10 yrs	1-4	.14079	.314
	4-7	.03148	.990
	7-10	.50533*	.001

* The mean difference is significant at the .05 level.

The level of customer relationship management performance was found to be perceived differently by respondents with different lengths of experience in the use of electronic banking. A summary test of the significant differences is tabulated in Table 4.13. The pos-hoc analysis table revealed that respondents with 2-4 years electronic banking experience perceived customer relationship management

performance differently from those with less than 1 year experience and those with 5-7 years electronic banking experience. The respondents with 2-4 years experience perceived higher customer relationship management performance than the other groups.

Table 4.13

Test of the Significant Differences in the Level of Customer Relationship Management Performance by Electronic Banking Experience

E-banking experience (I)	E-banking experience (J)	Mean difference (I-J)	Sig.
= 1 yr	2-4	-.37479*	.013
	5-7	-.03533	.999
	8-10	-.01393	1.000
	> 10	-.29384	.075
2-4 yrs	= 1 yr	.37479*	.013
	5-7	.33946*	.022
	8-10	.36086	.058
	> 10	.08095	.887
5-7 yrs	= 1 yr	.03533	.999
	2-4	-.33946*	.022
	8-10	.02140	1.000
	> 10	-.25851	.119
8-10	= 1 yr	.01393	1.000
	2-4	-.36086	.058
	5-7	-.02140	1.000
	>10	-.27991	.206
>10 yrs	= 1 yr	.29384	.075
	2-4	-.08095	.887
	5-7	.25851	.119
	8-10	.27991	.206

* The mean difference is significant at the .05 level.

The level of customer relationship management performance was found to be perceived differently by respondents with different incomes. A summary test of

the significant differences is tabulated in Table 4.14. Respondents with annual income of between RM45,000 and RM55,000 perceived higher customer relationship management performance levels than above RM55,000.

Table 4.14

Test of the Significant Differences in the Level of Customer Relationship Management Performance by Annual Salary

Annual Salary (I)	Annual Salary (J)	Mean Difference (I-J)	Sig.
35,000-45,000	45,000-55,000	-.18203	.533
	> 55,000	.2222	.376
45,000-55,000	35,000-45,000	.18203	.533
	> 55,000	.40426*	.020
> 55,000	35,000-45,000	-.22222	.376
	45,000-55,000	-.40456*	.020

* The mean difference is significant at the .05 level.

4.6 CORRELATION ANALYSIS

Table 4.15 provides a summary of the results from correlational analysis. The computation of the Pearson correlation coefficients was performed to obtain an understanding of the relationship between all the variables in the study. The values of the correlation coefficients (r) given in the table indicate the strength of the relationship between variables. As shown in Table 4.15, overall correlation values of the variables show correlation coefficients with positive values above .35. These generally indicate the associations between variables.

Table 4.15

Pearson Correlations of Study Variables

	CRMP	POT	POSQ	PEmoV	POP	POS	PEcoV	PU
CRMP	1							
POT	.67**	1						
POSQ	.51**	.64**	1					
PEmoV	.56**	.63**	.50**	1				
POP	.50**	.42**	.39**	.45**	1			
POS	.46**	.40**	.35**	.56**	.60**	1		
PEcoV	.57**	.44**	.37**	.56**	.53**	.46**	1	
PU	.61**	.53**	.52**	.48**	.53**	.53**	.50**	1

Note. *p<.05; **p<.01; CRMP=Customer relationship management performance; POT=Perceived trust; POSQ=Electronic service quality; PEmoV=Perceived emotional value; POP=Perceived privacy; POS=Perceived security; PEcoV=Perceived economic value; PU=Perceived usefulness

As shown in the above table, majority of the influencing are statistically correlated with customer relationship management performance with the range of *r* scores between .46 and .67.

4.7 RESEARCH HYPOTHESES - AMENDMENTS

In light of the results of factor analysis, some amendments have to be made to the statement of hypotheses stated earlier. The hypotheses tested in this study are as follows:

Relationships between predict factors and customer relationship management performance.

i. Technology factor components:

Hypothesis 1a: *Perceived trust is positively related to customer relationship management performance.*

Hypothesis 1b: *Perceived usefulness is positively related to customer relationship management performance.*

ii. Service process factor components:

Hypothesis 2a: *Electronic service quality is positively related to customer relationship management performance.*

Hypothesis 2b: *Perceived privacy is positively related to customer relationship management performance.*

Hypothesis 2c: *Perceived security is positively related to customer relationship management performance.*

iii. Customer value components:

Hypothesis 3a: *Perceived emotional value is positively related to customer relationship management performance.*

Hypothesis 3b: *Perceived economic value is positively related to customer relationship management performance.*

4.8 HYPOTHESES TESTING

In order to answer the research questions that address the influence of trust, service quality, customer perceived value, privacy and security as influencing factors on customer relationship management performance, regression analyses were conducted. However, before conducting the analysis, the data were first examined to detect whether there are any violations of the basic assumptions underlying the regression analysis, namely linearity, normality and homoscedasticity (Hair et al., 1998).

The first assumption, linearity, is assessed by analysis of partial plots. The plots in Appendix I show the relationship between a single independent variable and the dependent variable. A visual examination of the plots indicates that it was obviously U-shaped, thus meeting the assumption of linearity for each independent variable. The next assumption deals with homoscedasticity. As suggested by Hair et al. (1998), to show the existence of homoscedasticity, diagnosis is made by plotting the residuals against the predicted dependent values and comparing them to the null plot. The scatter plots in Appendix H show no discernible patterns, thus indicating homoscedasticity in the multivariate (the set of independent variables) case. The final assumption that is normality is examined by normal probability-plot (P-P) of residuals. From the normal p-p plot in Appendix I, the values fall along the diagonal with no substantial or systematic departures, indicating that the residuals are normally distributed. Overall, inspection of data revealed that there was no serious

violation of the basic assumptions. Therefore, the use of regression for subsequent analysis is appropriate.

The interpretation of the regression analysis is based on the standardized coefficient beta (β) and R^2 which provide evidence on whether to support or not to support the hypotheses stated in the chapter.

4.8.1 Multiple Regression Analysis on Factors That Influence Customer Relationship Management Performance

In order to answer the second research question on the factor that influence customer relationship management performance, regression analysis was undertaken on the predicted factors and customer relationship management performance.

At the beginning stage of data analysis, all outliers have been filtered out. There are four reasons that cause outliers (Hamid, 2006). The first reason occurs from incorrect data entry. In this research, a few cases of these errors were noted and corrected. The second type of outlier is the inclusion of missing values, and the third type is the result of sampling error where cases are not representative of the intended population. Finally, outliers include those observations within the intended population but are extreme in their combination of values across the variables.

Table 4.16 provides evidence on the influence of predictors on customer relationship management performance. The table shows that the relationship between independent and dependent variables is significant (F = 54.00; Sig. = .00). The R^2 obtained indicates that the influencing factors account for 59.2 percent of

the variation in customer relationship management performance. Of all the variables included in the regression equation, only three variables emerged as significant predictors of customer relationship management performance. These are perceived trust, perceived economic value and perceived usefulness. Based on these results, hypotheses 2a, 2b and 4b are supported. This leads to the conclusion that perceived trust, perceived economic value and perceived usefulness are positively related to customer relationship management performance. Other influential variables are found to have no significant influence on customer relationship management performance. Therefore, hypotheses 2a, 2b, 2c, 3c and 3a were rejected.

To investigate which factors have the most influence on customer relationship management performance, we used the beta values as shown in Table 4.16. Based on the beta values of the three significant variables, the predictor variables that exercise the most influence on customer relationship management performance is: perceived trust (β = .41), followed by perceived economic value (β = .21) and perceived usefulness (β = .20).

Table 4.16

Summary of Multiple Regression Analysis for Factors Influencing Customer Relationship Management Performance (N=307)

Influential	Standard coefficients Beta (ß)	*t*	Sig.	Colinearity statistics Tolerance	VIF
Perceived trust	.408	6.75	.000	.375	2.67
Electronic service quality	.020	.40	.690	.537	1.86
Perceived emotional value	.043	.77	.440	.436	2.29
Perceived privacy	.083	1.58	.114	.496	2.02
Perceived security	.036	.65	.519	.433	2.31

Perceived economic value	.213	4.32	.000	.564	1.79
Perceived usefulness	.204	3.86	.000	.493	2.03

Note: R^2= 0.59; F=54.00; Sig. F=.00; **p<.01

B= Unstandardized coefficient beta; SEB= Standard error of regression coefficient;

B= Beta coefficient

For the regression of independent variables on customer relationship management performance, the tolerance values and the condition index for all the independent variables are examined to detect multicolinearity. The tolerance should be close to 1.00 to indicate little or no multicolinearity (Pallant, 2001). Hair et al. (1998) suggest a cutoff value of 10.00 as an acceptable VIF. From the tolerance and VIF values shown in Table 4.16 the output indicates no multicolinearity effect among independent variables on dependent variables.

4.9 SUMMARY OF FINDINGS

This chapter has managed to present findings of the present study. This chapter started with the test on non-response bias that revealed no statistically significant difference between early and late responses. Therefore, the issue of non-response bias did not significantly affect the generalizability of the findings in this study.

Descriptive statistics showed that, in general, respondents perform high level of customer relationship management performance. Furthermore, the standard deviation demonstrated that statistically the variation of customer relationship management performance among respondents was high. The mean score of 3.92 on a five point Likert-scale indicates that the level of CRM performance is perceived as high among respondents. Furthermore, with standard deviation of 0.62, it indicates

that statistically the variations of CRM performance perceived by respondents are high.

To examine the relationship between factors influencing customer relationship management performance, regression analyses were conducted. Presented below is the summary of the findings of the hypotheses testing.

Table 4.17

Hypotheses Testing Result Summary

Hypothesis	Accept/Reject
Hypothesis 1a: *Trust is positively related to customer relationship management performance.*	Accept
Hypothesis 1b: *Usefulness is positively related to customer relationship management performance.*	Accept
Hypothesis 2a: *Electronic service quality is positively related to customer relationship management performance.*	Reject
Hypothesis 2b: *Perceived privacy is positively related to customer relationship management performance.*	Reject
Hypothesis 2c: *Perceived security is positively related to customer relationship management performance.*	Reject
Hypothesis 3a: *Perceived emotional value is positively related to customer relationship management performance.*	Reject
Hypothesis 3b: *Perceived economic value is positively related to customer relationship management performance.*	Accept

In the next chapter, a detailed discussion of the findings is offered. The next chapter also elucidates the implications of the findings to both future research and practice, among others.

CHAPTER 5

DISCUSSION

5.1 INTRODUCTION

This chapter recapitulates the findings, followed by a discussion of their inferences based on empirical data collected from the sample. Both theoretical and managerial implications, together with limitations, are also highlighted. This chapter ends with empirical-based deductions and suggestions for future research.

5.2 RECAPITULATION OF THE STUDY FINDINGS

Based on Davis and Vankantesh's (1996) model of technology acceptance (TAM 2), this study investigates the influence of people, process and technology factors on customer relationship management performance. Customer relationship management performance is defined as the customer intention to stay longer to forge a wider, broader and deeper relationship with service providers. TAM 2 is the most suitable underlying theory to guide the current study framework because the attitudes variable is omitted from the models besides extending the intention concept as the intention to re-use the services.

Specifically, the first objective of this study is to examine the level of customer relationship management performance as perceived by electronic banking customers. The second objective is to identify the influence of people, process and technology factors on customer relationship management performance.

Revisiting the study's objectives, this study was undertaken to seek answers to two research questions that is: (i) What is the level of customer relationship management performance in Malaysian electronic banking services? (ii) To what extent customer value, service process and technological factors influence customer relationship management performance?

As noted in Chapter 3, toward meeting the objectives set, a quantitative approach was employed to study the level of customer relationship management performance. Data were gathered from electronic banking customers. Five hundred questionnaires were distributed and 350 questionnaires were returned, representing 70 percent participation. However, only 307 were useable. Thus, the effective response rate is 61.4 percent.

Exploratory principal component factor analyses were utilized to test the factorial validity of the measures in this study. The analyses undertaken produced various dimensions of the influential factors and customer relationship management performance. The hypotheses were then reformulated using these new dimensions. The internal consistency of the measures was then tested by computing the reliability coefficient. Finally, the data were analyzed using standard regression analyses, to test the hypotheses of the study. The .05 level of significance was used as the critical level for decision making regarding the hypotheses.

Responding to the first research question, this study found that Malaysian electronic banking customers tend to perceive high level of customer relationship management performance. There is no difference in the mean scores of customer

relationship management performance perceived by males and females and between married and single respondents. Apparently the result reveals that customer relationship management performance is perceived higher by those with less than 4 years of experience and those with 7-10 years of experience.

The level of customer relationship management performance was also found to be perceived differently by respondents with different lengths of electronic banking experiences. Respondents with 2-4 years of electronic banking experience perceive customer relationship management performance differently when compared to those who have less than 1 year experience and those with 5-7 years of experiences in electronic banking. Respondents with 2-4 years experience perceive the highest level of customer relationship management performance when compared to other groups.

In case of annual salary, the level of customer relationship management performance was found to be perceived differently by the respondents with different annual incomes. Respondents with annual income between RM45,000 to RM55,000 perceive higher customer relationship management performance levels than those above RM55, 000.

With regards to the second research question, the findings indicated that out of seven hypotheses, only three were supported. It was found that customer perceived trust; customer perceived usefulness and perceived economic value of electronic banking services have positive influence on customer relationship management performance.

5.3 DISCUSSION

The following section discusses in further detail the performance level of customer relationship management in Malaysian electronic banking services and the influence of people, process and technological factors on customer relationship management performance.

5.3.1 Level of Customer Relationship Management Performance in the Malaysian Electronic Banking Services

To answer the first research question, this study demonstrates that the level of customer relationship management performance perceived by electronic banking customers is high. The high level of customer relationship management performance perceived indicates that customers have high intention to maintain a good relationship with the bank and to continuously use the electronic banking services. In other word, since the dimensions of customer relationship management performance comprise satisfaction, loyalty, repurchase intention, retention and word of mouth, a high level of customer relationship management performance shows that customers tend to have a high level of satisfaction, loyalty, repurchase intention and positive word of mouth towards the services. This finding is in line with Wang et al. (2004) who found that customer's perceived high customer relationship management performance are likely to continue with security firms in China.

One plausible reason to explain this finding is probably due to the confidence level of our customers toward the variety of electronic services in Malaysia nowadays. The good practices of law enforcement and control by Central

Bank of Malaysia makes privacy and security not an issue when dealing with online transactions. The level of customer privacy, security and value has effectively satisfied them besides making them loyal on the services. Therefore, this research found that the levels of customer relationship management performance as perceived by the customers tend to be very high as being explained by the dimensions (customer satisfaction, loyalty, and repurchase intention).

Besides that, with the high significant influence of perceived trust on CRM performance, this research has proved that customer's perceived trust plays an important role in customer intention to retain in the electronic banking services. This is consistent with Cheung, Chan & Limayen (2005), who found that customer factors, such as perceived trust, contribute 70 percent towards successful CRM implementation. As explained earlier, one of the operational definitions of customer relationship management performance is customer intention to stay longer in the services. With the significant influence of trust on CRM it indicates that perceived trust has increased customers' intentions to stay longer, which make the level of customer relationship management performance highly favorable.

As shown by the analysis, customer value plays an important role in customer relationship management performance. This is consistent with Wang et al., (2004) who found that perceived functional value gives significant influence on customer relationship management performance in security services in China when compared to perceived emotional value and economic value. In the current context of study, electronic banking services offer economic benefits to customers. For example, in recent days, difficulties in town parking have caused customers to move

from traditional banking to modern banking. Furthermore, modern banking provides online and electronic services at flexible locations.

The level of customer relationship management performance was found to be perceived differently by respondents with different lengths of working experiences. Respondents with less than 4 years of experience perceived higher level of customer relationship management performance than those with 7-5 years of experiences. This is possibly because the former group has less experience in electronic services than the latter group. Therefore, they are not able to make good judgment yet on online services loyalty and satisfaction. In addition, the higher level of perception on customer relationship management performance was found in among respondents with 4-7 years of experience and those above ten years of service. The possible reason for this is because the former group has more exposure to computer technology and hence more familiar in using electronic banking services than those who are mostly above forty years old. However, respondents with more than 10 years of experience were found to perceive high significant difference in customer relationship management performance compared to those with 7-10 years of working experience. This situation is possible because the most experienced group may be already familiar with electronic services due to their high positions in the organization and professional lifestyles. Consumers who have experience with other e-banking services such as ATMs and phone banking will be more likely to use online banking than those who have no such experience because banking is something a necessity (Chai, Yang, & Cude, 2008).

The level of customer relationship management performance was found to be perceived differently by respondents with different lengths of electronic banking experiences. Respondents with 2-4 years of electronic banking experience perceived more favorably than the other group. The customer with 2-4 years of electronic banking usage experience possibly a new staff which are more familiar with using ATM's machine for money transfer and withdrawing so that this favorability makes them perceived high customer relationship management performance. Furthermore, it is interesting to see that only those in 2-4 year group that see CRM in a favorable light. Logically speaking, the more experienced one is with online banking services, the more favorable their perception on CRM performance.

In case of annual income, the level of customer relationship management performance was found to be perceived differently by the respondent's annual income. Those whose annual income is between RM45,000 and RM55,000 perceived higher customer relationship management performance levels than those earning above RM55,000. The plausible reason is that the group with lower salary is more committed in the usage of online banking services when compared to the highest income group. For them, using electronic banking services such as making electronic payment is becoming a routine. However the highest income groups have more choice in term of selection of online banking services, they have more potential to be a special VIP membership status for many banks at one time. So that, more easy for them to move to other electronic banking service provider instead of being loyal to one bank. That is the reason why they perceived low customer relationship management performance. A review of the existing literature in

electronic banking in general indicates that higher earnings (Al-Ashban & Burney, 2001; Karjaluoto, Mattila, & Pento, 2002; Lockett & Littler, 1997) is one of the variables that differentiate between loyal users from non-loyal users of electronic channels in banking.

The present study also found that the extent of customer relationship management performance as perceived by customers does not vary by gender. There is no difference between male and female customers in perceiving customer relationship management performance. In fact, both gender reported practicing a high degree of customer relationship management performance which means that they have a similar level of intention to use electronic banking services. In other words, since the dimensions of customer relationship management performance comprise satisfaction, loyalty, repurchase intention, retention and word of mouth, similar levels of customer relationship management performance shows that both gender are satisfied, loyal, have high repurchase intention and have positive word of mouth towards the services. The plausible reason for this is probably because most of the respondents selected in this study have similar chances to explore the electronic services hands-on without any influence by cultural norms and gender. In Malaysia, gender has equal opportunities in terms of consumer right, employment and education.

5.3.2 The Influence of People, Process and Technology Factors on Customer Relationship Management Performance

The findings indicate that out of seven hypotheses related to people, process and technological factors, only three were significantly influence customer relationship management performance. The factors are customer perceived trust; customer perceived usefulness and perceived economic value of electronic banking services. The following explains the finding of each influential factor.

5.3.2.1 Customer factors

5.3.2.1.1 Perceived economic value

This study found significant relationship between perceived economic values and customer relationship management performance. In other words, we can say that perceived economic value influences customers' intention to stay using electronic banking services. This finding is similar to that by Ho and Ko (2008), Liu (2006), Wang et al. (2004), who found that perceived value influences customer decision to stay longer with the service provider in variety of services. Normally, the customer will decide to stay longer and loyal to the services when they are satisfied with them. Staying loyal to the services represents a high level of customer relationship management performance.

Customer value (CV) is a critical factor in influencing customer retention and purchase intention (Chang & Wildt, 1994). This result also supports the study's finding by Ho and Ko (2008) who found that customer value has a significant relationship to Internet banking usage intention. Other researchers such as Dodds et

al. (1991), and Parasuraman and Grewal (2000) have also established a positive relationship between perceived value and intention to purchase/repurchase. This finding has confirmed the suggestion by Davis (1989), who stressed the possibility of other variables in predicting customer intention and actual behavior in the TAM model.

It is relatively easy to speculate why the perceived economic value associate with e-banking is able to make customers satisfied and loyal. This is because e-banking services provide them with lower charges, flexible time and location which make the services more economical. For example, the main reason for Malaysian customers to become loyal to the electronic services is because of time and cost savings. The difficulties in getting parking space, road congestions, and the increasing number of bank customers from all level of ages make the banking services in the bank premises more inconvenient. Customers have to stand in long queue besides rushing to their workplace after lunch hour and this routine activity is not economical and practical for many to go through. Therefore, the introduction of a variety of electronic services or online services provides convenience to customers when transacting bank services, inter-bank payment, financing and credit transfers. In other words, the rational impact of high economic value on customer relationship management performance has created their intention to use electronic banking regularly. This finding is also aligned to previous research by Wang et al. (2004), who deduced the significant effect of customer value on customer relationship management performance. However they found that only functional value has a

significant influence on customer behavior-based CRM performance compared to other values such as economic, emotional and perceived sacrifice.

5.3.2.1.2 Perceived emotional value

This study however found no significant relationship between perceived emotional value and customer relationship management performance. In this study, emotional value is defined as the utility derived from the affective states of product or service generates. Operationally, the respondents were asked to rate their feelings on the enjoyment of the services, the feeling of relaxation in the use, good feeling of using the services and the pleasure of the services. Based on the items asked, perhaps the respondents were not able to experience the utility supposed to be derived from the services. For example customers may not be able to enjoy the services rendered and feel relaxed about using it because in the context of electronic banking they have to give serious attention to the transaction done. Perhaps customers in this study prefer the functional utility to emotional utility derived from e-banking services.

The finding reported in this study is consistent with that of Wang et al. (2004), who also found that emotional value did not show a positive relationship to customer relationship management performance. Nowadays, customers are becoming more mature in their consumption choice and matured customers tend to incline toward preferred functional value rather than emotional value, social value and perceived sacrifice when they make decisions (Wang et al., 2004).

5.3.2.2 Technology factors

5.3.2.2.1 Trust

This research found significant relationship between perceived trust and customer relationship management performance. This finding is consistent with previous study by Chen and Barnes (2007), and Rexha et al. (2003), who found that trust is an important component on purchase intention towards online shopping. These research findings also support a research work done by Mukherjee and Nath (2003), which discovered a positive relationship between perceived trust and customers' commitment in online banking. Therefore the importance of trust as one of the predicted factors for customer relationship management is fully supported by past research. This research finding has also confirmed the importance of trust as one of the predictors of intention in the original TAM model (Davis, 1989).

Most banks in Malaysia are taking a serious action when dealing with online hackers and card cloning problems, prevalent during the last few years. The initiatives by the Malaysian government in taking very fast action on those involved in online crimes has given a positive impact on the recent development in electronic banking industry. This has indirectly affected the level of customer trust toward the services offered electronically or online no matter if it is in the form of Internet banking, phone banking, mobile banking or ATMs.

5.3.2.2.2 Usefulness

This research has proved a positive relationship of perceived usefulness on customer relationship management performance. The importance of perceived usefulness has

been widely recognized in the field of electronic and services sectors. Usefulness is the subjective probability that using the technology would improve the way a user could complete a given task. According to TAM, usefulness of the system contributes to customer intention to accept the system (Davis, 1989). When customer relationship management was operationalized as the intention of retaining customer with longer, wider and deeper relationship with services, it shows that this finding has supported the TAM theory. This finding is consistent with past empirical study that found positive relationships between usefulness and intention to adopt to a variety of specific technologies, ranging from computer software to e-mail (Chau & Hu, 2001), and customer adaptation intentions of the Web site interface (Shih & Fang, 2004). Furthermore, Gu, Lee, and Suh (2009) have done an empirical research to determine the behavioral intention to mobile banking. They also verified the effect of perceived usefulness on behavioral intention in mobile banking.

In this study, customer relationship management performance was operationalized as customer intention towards behavior. Therefore perceived usefulness of electronic banking services has influence customers' intention to adopt the services continuously (Erickson et al., 2004; Karjuluoto et al., 2002; Lassar et al., 2005; Pikkaranen et al., 2004; Rotchanakitumnuai & Speech, 2003; Sohail & Shanmugam, 2003; Sudarraj et al., 2003; Suh & Han, 2002; Wang et al., 2003). All these past researches have successfully tested the TAM models for a variety of electronic banking usage.

Another plausible reason for the expected finding is related to the respondents in this study. They are university lecturers who have various duties to assume such as administration work, counseling, advising students, conducting research, and teaching. Because of the variety of task assignments, the completeness of banking through online connection is important as it can provide them with some degree of comfort. Therefore, perceived usefulness is a criterion that is becoming more important from time to time. Similar to other professional groups such as doctors or lawyers, the result will be same.

5.3.2.3 Process Factors

All the factors under process factors are found to have no significant influence on customer relationship management performance. In other words, it means that electronic service quality, perceived privacy and perceived security are not related to CRM performance.

5.3.2.3.1 Perceived privacy

This research found no significant relationship between perceived privacy and customer relationship management performance. In other words, perceived privacy has failed to predict continuance intention of electronic banking services. This finding supports past studies such as those done by Kim and Stoel (2004) who indicated that web appearance and information attribute have little impact on customer satisfaction. Web appearance and information includes information privacy and Web quality (Kim & Stoel, 2004), and Seock (2003) who found that

perceived privacy does not drive customer attitudes and intention to use online services. Green (2005) also found insignificant relationship between privacy and system usage intention. Due to the context of services which involved online information exchange of personal data repeatedly every month, users tend to feel that all information regarding the transaction between them and banks are not a privacy matter anymore. Therefore, perceived privacy plays a less important role towards the system usage intention (Green, 2005).

However, the insignificant finding contradicts past research that found positive relationship between privacy and online shopping intention of grocery product (Kervenoal et al., 2007), and internet business (Singh & Hill, 2003), and purchased intention (George, 2002).

5.3.2.3.2 Perceived security

This research also found no significant relationship between perceived security and customer relationship management performance. In other words, perceived security is not a predictor of continuance intention of electronic banking services. This means that customers' intentions to adopt electronic banking are not related to security matters. This research finding is consistent with past research by Hernandez and Mazzon (2006) who found relative advantage of security and privacy are not significant on intention to adopt Internet banking in biggest cities in Brazil. Similarly, the comparison study by Brown et al. (2004) on the intention to adopt Internet banking in Singapore and South Africa found that in Singapore and South Africa, the technology process support (such as relative advantage, security and

privacy matters) had no influence on continuance intention. The present research finding is also consistent with past research by Seock (2003) who found that perceived security did not influence customer attitudes and intention to use technology.

The issues of security become less important over time because advances of security technology (Chen, 1999). Tafti and Shirani (1997) indicated that concerns of data security and privacy are not at the top of the list of concerns among Internet users. Moreover, there is no reason to worry about Web security since it is very difficult for criminals to crack encrypted messages sent across the Internet (Belsky, 1997). Possibly, the situation is similar in Malaysia, whereby technology support on business process is becoming less important since the government has moved towards world class ICT infrastructure a few decades ago.

Another reason for the insignificant role of security is that over time services especially for ATM machines are becoming more secure and stable. For example, the machines are located within city centers and are close to congested areas. Furthermore, because the usage of the services become more common in today's lifestyle, customers probably do not give much attention to security factors.

Respondents involved in this study are lecturers and academicians. Most of them have knowledge on the exercise of system protocol and Internet security protection. There are many policies regarding security protection in electronic transactions, for example, web server security on Apache server was configured with maximum security. Data storage security emphasizes storage of data collected and data are stored in places where the web server has no direct access. In addition,

communication security generally provides more secure protection especially when all other communication servers (except the essential ones for conducting the web-based survey) are shut down. This includes FTP servers, Telnet servers and other communication monitoring servers. During the data collection period, no external connection will be permitted, except the WWW requests. That is why security factors do not influence much electronic banking satisfaction. There is no reason to fret about web security since it is very difficult for criminals to crack encrypted messages sent across the Internet (Belsky, 1997). This issue will be less important over time because of advances of security technology (Chen, 1999; Tafti & Shirani, 1997).

Other factors like technology experience will influence user's intention to use self service technology (SST). According to Oyedele and Simpson (2007), low levels of technology anxiety causes high intention to use SST and high levels of technology anxiety causes low intention to use SST. Related to this study, the results show no significant relationships between securities and privacy factors because the respondents are lecturers and are perhaps more exposed to technology. Therefore their levels of anxiety are low compared to other group of customers. Low technology anxiety causes high intention to use self service technology including electronic banking because they feel that the systems are secured. That is why security is not significant in their intention decision.

However, these research findings contradict past research on the importance of perceived security on online services (Goode & Harris, 2006; Laforet & Li, 2005; Udo, 2001). Furthermore other study by Zhang, Prybutok & Huang (2006) found that perceived security have impact on user satisfaction of e-services.

5.3.2.3.3 Electronic service quality

This research also found no significant relationship between perceived electronic service quality and customer relationship management performance. In other words, perceived electronic service quality is not related to continuance intention of electronic banking services. This finding is consistent with past research by Nugroho (2007) and Roberts et al. (2003), who found no significant relationship between service quality and behavior intention. In fact, Roberts et al. (2003) found that relationship quality is a better predictor of behavioral intentions than service quality. The present research finding also lends support to past research by Seock (2003) who found that perception on service quality does not influence customer attitudes and intention. Chang and Wang (2008) conducted an empirical analysis using structural equation modeling analysis and the results indicated that e-service quality did not affect the loyalty of on-line shopping customers. They also found that the entire dimensions of e-service quality such as web site design, reliability, security, and customer service do not affect loyalty of on-line shopping customers. In the present study, loyalty is one of the dimensions for customer relationship management performance.

System quality and service quality are not significantly related to continuance intention because users appear to be more tolerant toward system quality and information quality as long as these web sites provide the necessary functionality and make the online option more convenient than the offline option (Teo, Srivastava, & Jiang, 2008). Furthermore, with regards to online quality matters, in general, most banks provide a variety of online services from cash withdrawal, statement printing, and cash and check deposits at various locations in the city. All banks provide similar services and most of them upgrade their online features and appearance to attract customers. When all services are similar, there is no more variation in terms of online quality matters.

In terms of the respondents selected in the present study, their professional status allows them easy access to the technology. Their routine activities involving the use of a variety of technological tools for teaching, presentation, record management and electronic filing enable them to form a positive perception towards technology. Because they are more tied to technology in their routine activities then issues such as privacy, security and system quality are not important in their decision to retain using e-banking services.

Cyber laws in Malaysia govern the behavior, business transactions, privacy, contracts and intellectual property rights within a cyberspace environment. In order to satisfy the legal needs of e-commerce, Malaysia has promulgated several cyber laws that include Digital Signature Act (1997), Computer Crime Act (1997), Telemedicine Act (1997), Copyright (Amendment) Act (1997), Communications and Multimedia Commission Act (1998), and Optical Discs Act (2000).

The Malaysian Computer Crime Act was enacted in 1977 to ensure that misuse of computers becomes a legally punishable offence. It also outlines the service providers and potential penalties for infringements. The establishment of cyber laws in Malaysia has produced some effect on customers' confidence to adopt electronic banking and hence to retain the use of e-banking services. It is within this context that the issue of privacy and security do not influence significantly their intentions to use online services.

Besides the establishment of cyber laws, the Banking and Financial Institutions Act (BAFIA) of 1989 also has a section relevant to electronic banking. Section 119 of the BAFIA insists on the need to obtain written approval from the Central Bank and submit to its supervision and control on all aspects of electronic fund transfer systems. As mentioned earlier, the appointment of variety of bodies to supervise the misconduct of banks and financial institutions regarding electronic transaction have satisfied customers to move from their traditional banking to electronic banking which are more convenient to their current lifestyle. At the same time, the revision and upgrading of e-commerce laws keep online customers assured of all aspects of online deliveries. To sum up, privacy, security and electronic service quality factors become less important since customers' security concerns are addressed and protected under current laws and regulations.

However, this research finding contradicts past research by Ibrahim et al. (2006) who have shown a positive relationship between service quality and customer satisfaction among UK's banking customers. The current research result also contradicts Yen and Lu's findings (2007) in their study of the factors affecting

individual intention to repurchase in online marketplaces. They found service quality to be positively associated with bidder's satisfaction of the sellers.

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5.4 CONTRIBUTIONS OF THE RESEARCH

This research and its findings imply with it significant theoretical, methodological and provide managerial implications. These contributions and implications are discussed below.

5.4.1 Theoretical Contribution

From the theoretical perspective, the contribution of this research lies in identifying multiple ways through which customer value, technology and process factors impact on customer relationship management performance, particularly in the context of electronic banking services in Malaysia.

This research contributes to the published literature by investigating the issues of customer relationship management performance applicable to electronic banking customers who are directly experiencing the use of e-banking services. Since customers have direct experience in using the services, it is reasonable to choose them to determine the level of satisfaction in customer relationship management performance in the services. This study helps to establish the theory concerning customer intention to stay longer, deeper, and forge wider relationship with electronic banking services.

This study has also constructed customer relationship management performance as relationship intention which is similar to the concept of behavior intention in the Technology Acceptance Model 2 (TAM) (Davis & Venkantesh, 1996). The consideration of intention as repurchase intention in TAM is not new, for example past research by Su, Hsu and Wang (2009) has empirically examined the role of prior online shopping experience to explore online shoppers' beliefs and repurchase intentions. Repurchase intention has been studied extensively by marketing scholars. It is typically defined as the intention to repeatedly purchase a particular product or service over time (Khalifa and Liu, 2005). Davis et al. (1989) has stress that, in technology acceptance model (TAM), perceived usefulness is one of the major determinants of continuance, or repurchase in the context of online shopping. It refers to the salient beliefs of customers regarding the instrumentality of repurchase. This research finding has confirmed the parsimonious extension of TAM model in term of explaining continuance intention in IT usage (Bhattacherjee, 2001; Cenfetelli et al., 2005; Hsu & Chiu, 2004; Hsu et al., 2006; Lin et al.,2005; Thong et al., 2006). This research will contribute to the number of published literature in retention strategies, especially by banking institutions that offer electronic banking services to customers.

Reinartz et al. (2004) indicated that technology plays a role in the successful implementation of CRM, but only a few studies have uncovered the factors that influence the use of CRM technology (Avlonitis & Panagopoulos, 2005). According to Greve and Albers (2006), further research is needed to understand whether and how CRM technology capabilities provide a factor for success in CRM and this

study has included other technology and process factors as recommended. Other technology factors such as perceived security, perceived privacy, perceived trust, besides usefulness, have been added as predictor for intention and behavior in TAM.

Besides the above, this study has identified customer value factors as the main predictors of customer relationship management performance. The existence of customer value factors is a new contribution towards TAM since it covers human factors instead of technology factors. Previous research by Bick et al. (2004) has examined the perception and expectations of banking customers with respect to the value delivered to them by retail banks in South Africa. To date, no empirical evidence is found on this aspect in Malaysia. This research is therefore undertaken to test the value factor as the main contribution for CRM performance for Malaysian banks. It seems that value factor is the most important factor in maintaining loyalty of customers (Wang et al., 2004). The current research finding has proven the importance of perceived economic value and that some of most significant categories of customer values were predicted as the influence of customer relationship management performance. Therefore, this study has confirmed that besides technological factors, customer value factor is also a key influence of customer intention.

The present study has also filled in the existing limitation of past research on the influence of people, process and technological factors on customer relationship management performance. The interesting findings in the current study are the causal relationships between the technological and people factors on customer relationship management performance. When the term of customer relationship

management performance is conceptualized as customer continuance intention, this is a new form of modification of the original theory. Original TAM theory used influential, intention and behavior but this study used new terms of intention which comprise customer relationship management performance which referred to continuance intention behavior of customer. The total variance score has proven that the present research framework is valid and significant; in other words, TAM theory is relevant and flexible for repeat usage intention or continuance intention in customer relationship management research. In this manner, this research also supports previous suggestion by McCalla, Ezingeard & Money (2003), who contend that continuance intention of technology is a sort of customer behaviors that comes from intention of customers from what they belief.

5.4.2 Methodological Contribution

Apart from theoretical contribution, this study also contributed to the methodological perspective. To date, most literature on customer relationship management performance has focused on customer behavior-based performance since it is an underlying source of value for current customers of a firm (Day, 1994; Jensen, 2001; Slater, 1997; Wang et al., 2004). Wang et al. (2004) developed a measurement for customer relationship management performance that only consisted of tangible behavior-based performance. They suggested that intangible behavior be included as one of the dimensions in the measurement and this research has confirmed that intangible behavior-based performance can also successfully

measure customer relationship management performance. This dimension hence reinforces the methodology.

As suggested by Wang et al., the scope of customer relationship management performance study has to be extended to various industries and not only confined to security industry like what they did in 2004. Therefore, in the current study, electronic banking services were selected as the context of the customer relationship management performance study. The positive result of this study strengthened the methodology by adding new setting and research context.

5.4.3 Managerial Implications

Besides theoretical and methodological contributions of this study, several managerial implications can be attributed to the results of this study. This study has provided key leads to banks on strategies to manage their customer relationship management through technology and customer value factors so as to ensure the high level of customer relationship management performance.

First and foremost, the information provided reinforces the idea that influence variables can be used by managers to attain greater focus in creating work conditions that can increase customer relationship management performance. Specifically, this study found that perceived trust with emphasis on customer relationship management performance is the most important predictor, followed by perceived economic value and perceived usefulness.

Banks have to understand how crucial it is to manage the customer data and information to ensure that customers have a sense of trust towards the services

offered. Customers tend to develop trust on the electronic banking services when they can complete their banking task effectively, when the services are reliable, when the services provided are error free and when they are skillful in using the services. In view of the findings, bank management must ensure that all criteria are fulfilled in totality if they want their customers to develop that sense of trust for the services provided.

The management of electronic banking services must also ensure that the system is useful in completing the customer's task. The services become useful if the electronic transaction is easy to use, the method for conducting the banking transaction is convenient, and the services are user friendly. Last but not least, the electronic services must eliminate geographic limitations but incorporate flexibility.

In terms of creating economic value from the electronic banking services, bank management have to ensure that the services have a value for money. The services offered should be inexpensive. Without the expected characteristics discussed above, it is not feasible for banks to provide economical services to customers.

5.5 LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This study has provided a pioneering step on the predict factors of customer relationship management performance in the context of electronic banking services offered by banking institutions in Malaysia. The research framework investigated technology and service process as the predictors for customer relationship management performance in electronic banking services. According to Chen and

Popovich's model (2004), people-related factors such as customer value, technology related factors such as usefulness, business process factors such as electronic service quality, are the pillars for successful customer relationship management. Therefore, future research should consider other people, technological and process factors as influencing factors of customer relationship management performance.

Despite the contributions, there are some limitations of this study. Firstly, the study used a cross sectional research design rather than longitudinal study. Thus, it is not able to examine customer behavior over a period of time. As a result, it cannot describe the patterns of change and causal relationship between variables. Secondly, this study is non-experimental. Thus, the variables in this study were not controlled to determine the causation of the effects. Thirdly, this study was conducted from a quantitative approach; therefore, it may not be able to provide a broader view of the phenomenon that exactly explains customer behaviors deeply from their internal emotions or sensitive feeling.

Despite the above limitations of this study, the strengths of the study remain. The limitations in this study suggest new dimensions for further research. This study has focused on the performance of customer relationship management in electronic banking services in Malaysia. There is a need to further test the model of this study in other developing countries in order to further understand the cultural and geographical variations of customer behaviors.

This study has examined electronic banking customers at a single period of time. A longitudinal study would therefore provide a significant approach in testing the outcomes of this study. Further research should be done by using both

quantitative and qualitative techniques in order to understand the phenomenon. By considering a qualitative type of research, such as field interview, we can deeply understand customer emotions when dealing with online technology.

Since the current study did not investigate the mediating role of customer relationship management performance on other variable, future research should study to what extent does customer relationship management mediate the relationship between people, technological and process factors on outcome such as performance. This is consistent with past study by Al-Hawari (2006) who found the mediating role of customer retention in the relationship between service quality and financial performance. The concept of customer retention variable in his study is similar to the concept of customer relationship management performance in the current study. Therefore, future research can consider the mediating effect of continuance intention as the mediator in the causal relationship.

CRM performance explains the process of value creation which ends with customer behavior continuance intention (to retain, repurchase, positive word of mouth), customer satisfaction and loyalty towards the brand. Sathye (1999) found that customer satisfaction has positive influence on the adoption of Internet banking in Australia. Rexha et al. (2003) investigated the impact of the customer relationship strategy on adoption of electronic banking. They found that perceived customer satisfaction with the bank gives a direct impact on the adoption of electronic banking. According to Griffin (1995), loyalty is geared more to behavior and when a customer is loyal, he or she exhibits purchase behavior. However, in e-service scenario, adoption decision is enough to explain loyalty towards the services since

it represents the routine usage of the services (Cooper & Zmud, 1990). Therefore, future researches should look into the effect of continuance intention on actual adoption behavior.

5.6 CONCLUSION

The findings of this study have suggested that customer relationship management performance explains the continuance intention of electronic banking customers. The finding gives managers a much stronger basis than intuition and anecdotes for recommending the wisdom of implementing good customer relationship management strategies to ensure continuance usage of electronic banking services. As such, banking institutions should take positive measures to improve their customer relationship management performance in their effort to attain higher electronic banking usage by their customers. These findings provide additional evidence to the growing body of knowledge concerning the importance of achieving higher level of customer relationship management performance.

With regards to the factors influencing customer relationship management performance, several inferences can be concluded from these findings. It can be concluded that influences of customer relationship management performance are quite diverse in their nature and origin. The present study suggests several factors as important determinants of customer relationship management performance. Specifically, customer relationship management appears to be facilitated by the technology and customer value factors. By having sufficient channel for the electronic transaction, customers feel confident and hence their level of trust will

increase towards the services. The online service requires a higher level of trust since the situation is not normal compared to the usual face-to-face transactions. Because of that, it is important for banks to improve their online services by incorporating important features than can enhance the trust element as this will increase the level of customer relationship management performance.

Besides trust, the customer value aspect is also an important criterion to consider in improving customer relationship management performance. By offering more economic value from the electronic services, customers will gain more value added services during the transaction and this will ensure that they stay longer and loyal towards the services that they have experienced. In other words, this will lead to higher a level of customer relationship management performance.

REFERENCES

ABM report, 2004

Abratt, R., & Russell, J. (1999). Relationship marketing in private banking in South Africa. *International Journal of Bank Marketing, 17*(1), 5-19.

Ackfeldt, A. L., & Coole, L. V. (2003). A study of organizational citizenship behavior in a retail setting (electronic version). *Journal of Business Research, 58*(2), 151-159.

Adamson, I., Chan, K. M., & Handford, D. (2003). Relationship marketing: Customer commitment and trust as strategy for the smaller Hong Kong corporate banking sector. *International Journal of Bank Marketing, 21*, 347-358.

Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice-Hall.

Al-Ashban, A. A., & Burney, M. A. (2001). Customer adoption of tele-banking technology: The case of Saudi Arabia. *International Journal of Bank Marketing, 19*(5), 191-200.

Al-Hawari, M. (2006). The effect of automated service quality on bank financial performance and the mediating role of customer retention. *Journal of Financial Services Marketing, 10*(3), pp. 228- 243.

Al-Hawari, M., & Ward T. (2006). The effect of automated service quality on Australian banks' financial performance and the mediating role of customer satisfaction. *Marketing Intelligence & Planning, 24*(2), 127-137.

Anderson, E., Fornell, C., & Lehmann, D. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing, 58*, 53-66.

Anon, (2002). Unraveling eCRM. *CRM Market Watch, 28*(8), 12-13.

Armstrong, J., & Overton, T. S. (1977). Estimating non-response bias in mail survey. *Journal of Marketing Research, 4*, 369-492.

Attaranm, M., & VanLaar, I. (1999). Privacy and security on the Internet: How to secure your personal information and company data. *Information Management & Computer Security, 7*, 241-246.

Avlonitis, G., & Panagopoulos, N. (2005). Antecedents and consequences of CRM technology acceptance in the sales force. *Industrial Marketing Management, 34*, 355-368.

Bagozzi, R. P. (1992). The self-regulation of attitudes, intentions, and behavior. *Social Psychology Quarterly, 55*, 178-204.

Balasubramanian, S, Konana, P, & Menon, N. M. (2003). Customer satisfaction in virtual environments: A study of online investing. *Management Science, 49*(7), 871-889.

Bansal, M. K. (2004). Optimising value and quality in general practice within the primary health care sector through relationship marketing: A conceptual framework. *International Journal of Health Care Quality Assurance, 17*(4), 180-188.

Barnes, J. G. (2001). The secrets of customer relationship management. New York, NY: McGraw-Hill.

Baron, R. M., & Kenny, D. A. (1986). The moderator mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Belsky, G. (1997). Get it quick and pay less by shopping on the Web. *Money, 26*(9), 174-176.

Bennet, R., & Barkensjo, A. (2005). Relationship quality, relationship marketing, and client perceptions of the levels of service quality of charitable organizations. *International Journal of Service Industry Management, 16*(1), 81-106.

Bentler, P. M., & Speckart, G., (1979). Model of attitude-behavior relations. *Psychological Review, 86*, 452-464.

Berger, P. D., & Bechwati, N. N. (2000). The allocation of promotional budget to maximize customer equity. *OMEGA - The International Journal of Management Science, 29,* 49-61.

Berry, L. L. (1983). Relationship Marketing in Emerging Perspective on Services Marketing, *American Marketing Association*, Conference Proceedings. Chicago: 1998. Vol. 9; (3 pages) pp. 25-28.

Berry, L. L. (2002). Commentary on relationship marketing, *Journal of Relationship Marketing,* 1(1), pp. 71-77.

Bhattacherjee, A. (2001), "An empirical analysis of the antecedents of electronic commerce service continuance", Decision support systems, Vol. 32, No. 2, pp. 201-214.

Bick, G., Brown, A.B., Abratt, R. (2004). Customer perceptions of the value delivered by retail banks in South, International Journal of Bank Marketing, 22(5), pp. 300-318.

Bitner, M. J. (1995). Building service relationships: It's all about promises. Journal of the Academy of Marketing Science, 23(4), 246-251.

Blattberg, R. C., Getz, G., & Thomas, J. S. (2001). *Customer equity: Building and managing relationships as valuable assets*. MA: Harvard Business School Press.

Body, L. A., & Limayem, M. (2004). The impact of customer relationship management on customer loyalty: The moderating role of web site characteristics. *Journal of Computer-Mediated Communication, 9*(4), pp. 57-67.

Bose, R. (2002). Customer relationship management: Key components for IT success. *Industrial Management & Data Systems, 102*(2), pp. 342-352.

Boston Consulting Group. (2000). *Mobile commerce: Winning the on-air consumer.* Retrieved on March 25, 2007, from:http://www.bcg.com/publications/files/M-Commerce_Nov_2000_Summary.pdf

Brady, M. K. & Robertson, C. J. (2001).Searching for a consensus on the antecedent role of service quality and satisfaction: exploratory cross-national study. *Journal of Business Research*, **51**, pp. 63-60.

Brown, I., Hoppe, R., Mugera, P., & Newman, P., Standar, A. (2004). The impact of national environment on the adoption of internet banking: Comparing Singapore and South Africa. *Journal of Global Information Management, 12*(2), 1-26.

Brown, S. A. (2000). *Customer relationship management: A strategic imperative in the world of e-Business*. Place of publication: John Wiley & Sons Canada, Ltd.

Brunjes, B., & Roderick, R. (2002). *Customer relationship management: Why it does and does not work in South Africa.* Paper presented at IMM Marketing Educators Conference, South African University, p. 9.

Bull, C. (2003). Strategic issues in customer relationship management (CRM) implementation. *Business Process Management Journal, 9*(5), 592-602.

Business Week, 1998

Buttle, F. (2000). *The SCOPE of customer relationship management.* CRM-Forum, available at: www.crm-forum.com

Caceres, R. C., & Paparoidamis, N. G. (2005). Service quality, relationship satisfaction, trust, commitment and business-to-business loyalty. *European Journal of Marketing, 41*(7/8), 836-867.

Callaghan, M., & Shaw, R. (2001). Relationship orientation: Towards an antecedent model of trust in marketing relationship. In S. Chetty & B. Collins (Eds.), *Proceedings of the Australian and New Zealand Marketing Academy Conference* (pp. 1-9), Massey University, Auckland, NZ.

Casalo, L. V., Flavia´n, C., & Guinali´u, M. (2008). The role of satisfaction and website usability in developing customer loyalty and positive word-of-mouth in the e-banking services. *The International Journal of Bank Marketing, 26*(6), 399-417.

Cavana, R. Y., Delahaye, B. L., & Sekaran, U. (2000). *Applied business research.* Australia: John Wiley & Sons.

Cenfetelli, R. T., Benbasat, I., & Al-Natour, S. (2005). Information technology mediated customer service: A functional perspective. In Proceedings of the 26th international conference on information systems (pp. 725–739).

Chai, L., & Pavlou, P. A. (2002). Customer relationship management.com. In J. DeGross (Ed.), *Proceedings of the 8th Americas Conference on Information Systems* (pp. 483-491), ACM, New York, NY.

Chai, Y., Yang, Y., Cude, B. (2008). Inconsistencies in US consumers 'attitudes toward and use of electronic banking: An empirical investigation, *Journal of Financial Services Marketing, 13*(2), 150-163.

Chan, S. C., & Lu, M. T. (2004). Understanding internet banking adoption and use behavior: A Hong Kong perspective. *Journal of Global Information Management, 12*(3), 21-43.

Chang, H. H., & Wang, H. W. (2008). The relationships among e-service quality, value, satisfaction and loyalty in online shopping. *European Advances in Consumer Research, 8,* Volume 8, pp. 321-331.

Chang, T. M., Liao, L. L., & Hsiao, W. F. (2005). *An empirical study on the e-CRM performance influence model for service sectors in Taiwan.* IEEE International Conference on e-Technology, e-Commerce and e-Service, March 29-April 1,240-245.

Chang, T. Z., & Wildt, R. A. (1994). Price, product information, and purchase intention: An empirical study. *Journal of the Academy of Marketing Science, 22*, 16-27.

Chaston, I., & Mangles, T. (2003). Relationship marketing in online business-to-business markets: A pilot investigation of small UK manufacturing firms. *European Journal of Marketing, 37*(5/6), 753-773.

Chatterjee, D., Pacini, C., Sambamurthy, V., 2002. Stock market reactions to IT infrastructure investments: an event study analysis. Journal of Management Information Systems 19 (2), 7–42.

Chau, P. Y. K., & Hu, P. J. H. (2001). Information technology acceptance by individual professionals: A model comparison approach. *Decision Sciences, 32*, 699-719.

Chee, L.K and Peng, N.K. (1996), Customer Orientation and Buyer Satisfaction: The Malaysian Housing Market, Asia Pacific Journal of Management, vol. 13 no. 1, April, pp. 101-116.

Chen J. and Ching R.K.H. (2007), The effects of Information and Communication Technology on Customer Relationship Management and customer lock-in, *International Journal of Electronic Business*, Vol. 5 (5) pg. 478-488.

Chen Y. H., & Barnes S. (2007) Initial trust and online buyer behavior. *Industrial Management & Data Systems, 107*(1), pp. 21-36.

Chen Y. H., & Corkindale, D. (2008). Towards an understanding of the behavioral intention to use online news services: An exploratory study. *Internet Research, 18*(3), 286-312.

Chen, I. J., & Popovich, K. (2003). Understanding CRM: People, process and technology. *Business Process Management Journal, 9*(5), 672-688.

Chen, J. S., & Ching, R. K. H. (2004). An empirical study of the relationship of it intensity and organizational absorptive capacity on CRM performance. *Journal of Global Information Management, 12*(1), 1-17.

Chen, K. (1999). *Factors that motivate internet users to use business-to-customer electronic commerce.* Unpublished doctoral thesis, Cleveland State University.

Chen, P. Y., & Hitt, L. M. (2002). Measuring switching costs and the determinants of customer retention in Internet-enabled businesses: A study of the online brokerage industry. *Information Systems Research, 13*(3), 255-274.

Chen, Z., & Dubinsky, A. J. (2003). A conceptual model of perceived customer value in e-commerce: A preliminary investigation. *Psychology & Marketing, 20*, pp. 323-347.

Cheng, T. C. E., Lam, D. Y. C., & Yeung, A. C. L. (2006). Adoption of internet banking: An empirical study in Hong Kong. *Decision Support Systems, 42*, 1558-1572.

Cheung, C. M. K., & Lee, M. K. O. (2001). Trust in internet shopping: Instrument development and validation through classical and modern approaches. *Journal of Global Information Management, 9*(3), 23-35.

Cheung, C., Chan, G., & Limayem, M. (2005). A critical review of online consumer behavior: Empirical research. *Journal of Electronic Commerce in Organizations, 3*(4), 1-19.

Chircu, A. M., Davis, G. B., & Kauffman, R. J. (2000). Trust, expertise and e-commerce intermediary adoption. In J. DeGross (Ed.), Proceedings of the 6th Americas Conference on Information Systems (pp. 710-716 , ACM, New York, NY.

Christopher, M., Payne, A., & Ballantyne, D. (1991). *Relationship marketing, bringing quality, customer service and marketing together*. Oxford: Butterworth-Heinemann.

Chu C. W., & Lu H. P. (2007). Factors influencing online music purchase intention in Taiwan: An empirical study based on the value-intention framework. *Internet Research, 17*(2), 139-155.

Colgate, M. & Smith, B. (2005). Relationships and the internet: The mediating role of a relationship banker. *Journal of Financial Services Marketing, 10*(2), 140-151.

CommerceNet/Nielsen Media Research (1997). *The CommerceNet/Nielsen Intemet demographics survey.* Retrieved on March 6, 2000, from http://www.commerce.net/research/

Constantinides, E. (2004). Influencing the online consumer's behavior: The Web experience. *European Journal of Marketing, 41*(5/6), 512-536.

Cooper, R.B., and Zmud, R.W., (1990). Information Technology Implementation Research: A Technology Diffusion Approach. *Management Science* (36:2), , pp 123-139.

Cravens, D. W., & Piercy, N. F. (1994). Relationship marketing and collaborative networks in service organizations. *International Journal of Service Industry Management, 5*(5), 39-53.

Cristobal, E., Flavia´n, C., & Guinali´u, M. (2007). Perceived e-service quality (PeSQ): Measurement validation and effects on consumer satisfaction and web site loyalty. *Managing Service Quality, 17*(3), 317-340.

CRM Community (2002). CRM Community Library Fundamentals.

Crosby, L. A. (2002). Exploding some myths about customer relationship management. *Managing Service Quality, 12*(5), 271-277.

Curry, A., & Kkolou, E. (2004). Evaluating CRM to contribute to TQM improvement: A cross-case comparison. *The TQM Magazine, 16*(5), 314- 324.

Curry, A., & Penman, S. (2004). The relative importance of technology in enhancing customer relationships in banking: A Scottish perspective. *Managing Service Quality, 14*(4), 331-341.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

Davis, F. D., & Vankantesh, V. (1996). A critical assessment of potential measurement biases in the technology acceptance model: Three experiments. International *Journal of Human Computer Study, 45*(1), 19-45.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science, 35*(8), 982-1003.

Dawidow, M. (2003). Have you heard the word? The effect of word of mouth on perceived justice, satisfaction and repurchase intentions following complaint handling. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior, 16*, 67-80.

Day, G. S. (1994). The capability of market-driven organizations. *Journal of Marketing, 58*, 37-52.

Department of Public Services, Service Circular, No. 20/2008, Department of Public Service): www.dps.gov.my

Dimitriadis, S., & Stevens, E. (2008). Integrated customer relationship management for service activities: An internal/external gap model. *Managing Service Quality, 18*(5), 496-511.

Dinev, T., & Hart, P. (2006a). An extended privacy calculus model for e-commerce transactions. *Information Systems Research, 17*(1), 61-80.

Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand and store information on buyers' product evaluations. *Journal of Marketing Research, 28*, 307-331.

Dunne, D. (2002). The CRM Backlash. *CIO Magazine*. Retrieved on 27 Mac, 2009 from www.cio.com

Eastin, M. S., & LaRose, R. (2000). Internet self-efficacy and the psychology of the digital divide. *Journal of Computer-Mediated Communication, 6*, (6), pp. 65-75.

Egan, J. (2004). *Relationship marketing: Exploring relational strategies in marketing* (2nd ed.). Essex: Prentice Hall- Pearson Education Limited.

Ehret, M. (2004). Managing the trade-off between relationships and value networks: Toward a value based approach of customer relationship management in business-to-business markets. *Industrial Marketing Management, 33*, 465-473.

Ellatif, M. M. A. (2008). A Cluster Technique to Evaluate Effect of ECRM on Customers' Satisfaction of E-Commerce Websites. Retrieved. Jan 20, 2008 from *http://ssrn.com/abstract=1128802*

Eriksson et al. spell out every author (2004). TQM in Europe: Organizational value in a quality award process - A Swedish study. *The TQM Magazine, 16*(2), 78-92.

Famulla, R., & Wassink, B. K. (2001). Customer relationship management: How financial firms can unlock value through customer insight. *Financial Services Marketing, 3*(4), pp. 432-442.

Farquhar, J. D. (2004). Customer retention in retail financial services: An employee perspective. *The International Journal of Bank Marketing, 22*, 86-99.

Feinberg, R., & Kadam, R. (2002). E-CRM Web service attributes as determinants of customer satisfaction with retail Web sites. *International Journal of Service Industry Management, 13*(5), 432-451.

Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention, and behavior: An introduction to theory and research. Reading, MA: Addison-Wesley.

Fitzgibbon, C., & White, L. (2005). The role of attitudinal loyalty in the development of customer relationship management strategy within service firms. *Journal of Financial Services Marketing, 9*(3), 214-230.

Flavia´n C., & Guinali´u, M. (2006). Consumer trust, perceived security and privacy policy: Three basic elements of loyalty to a web site. *Industrial Management & Data Systems, 106*(5), 601-620.

Floh, A., & Treiblmaier, H. (2006). What keeps the e-banking customer loyal? A multigroup analysis of the moderating role of consumer characteristics on e-loyalty in the financial service industry. *Journal of Electronic Commerce Research*, 7/2, 97-110.

Fontenot, R., & Hyman, M. R. (2004). The antitrust implications of relationship marketing. *Journal of Business Research, 57*, 1211-1221

Ford, D. (1990). *Understanding business markets: interaction, relationships and networks*. London: Academic Press.

Foss, B., & Stone, M. (2001). *Successful customer relationship marketing*. London: Kogan Page.

Galbreath, J., & Rogers, T. (1999). Customer relationship leadership. *TQM Magazine, 11*(3), 161-171.

Garland, R. (1991). The mid-point on rating scale: Is it desirable? *Marketing Bulletin, 2*, 66-70.

Gartner Group (The) (2005) 'Hype Cycle, available at http://www3.gartner.com/research/focus_areas/asset_48253_jsp#Hype_Cycles (accessed 10th February 2007).

GartnerGroup.com, 2002 GartnerGroup (11 April, 2002) "Don't Break the Bank With Enterprise CRM Spending", www.gartnergroup.com

Gay, L.R. & Diehl, P.L. (1992). Research Methods for Business and Management. New York: Mcmillan.

Gefen, D., & Straub, D. (2000). The relative use of perceived ease of use in IS adoption: A study of e-commerce adoption. *Journal of the Association for Information Systems, 1*(8), 1-28.

Gefen, D., & Straub, D. W. (1997). Gender differences in the perception and use of e-mail: an extension to the technology acceptance model. *MIS Quarterly, 21*(4), 389-400.

Gefen, D., & Straub, D. W. (2002). Managing user trust in B2C e-services. *e-Service Journal, 2*(2), 7-24.

George J. F. (2002). Influences on the intent to make Internet purchases. *Internet Research: Electronic Networking Applications and Policy, 12(*2), 165-180.

Gilbert, D., & Choi, K. C. (2003). Relationship marketing practice in relation to different bank ownerships: A study of banks in Hong Kong. *International Journal of Bank Marketing, 21*(3), 137-146.

Goldberg I., Wagner D. & Brewer E. (1997) 'Privacy-enhancing Technologies for the Internet' Proc. 42nd IEEE Spring COMPCON, February 1997.

González, M.E. Mueller, R.D.,Mack, R.W. (2008). An Alternative Approach in Service Quality: An e-Banking Case Study. *The Quality Management Journal;* 2008; 15, 1; ABI/INFORM Global. pg. 41-58

Goode M. M. H., & Harris L. C. (2006). Online behavioral intentions: An empirical investigation of antecedents and moderators. *European Journal of Marketing, 41*(5/6), 512-536.

Gotlieb, J. B., Grewal, D., & Brown, S. W. (1994). Consumer satisfaction and perceived quality: Complementary or divergent construct? *Journal of Applied Psychology, 79*(6), 875-885.

Granova, A., & Eloff, J. H. P. (2004). Identity theft. *Computer Fraud & Security, volume*(11), 7-11.

Grant, K., Cravens, D.W., Low, G.S. & Moncrief, W.C. (2001). The role of satisfaction with territory design on the motivation, attitudes and work outcomes of salespeople. Academy of Marketing Science Journal, 29, 2, 165-178.

Green, N. A., (2005). *Establishing public confidence in the viability of fingerprint biometric technology*. Unpublished master's thesis, Brigham Young University.

Greenberg, P. (2001). *CRM at the speed of light*. New York, NY: McGraw-Hill.

Greve, G. & Albers, S. (2006). *Determinants of performance in customer relationship management: assessing the technology usage-performance link.* Paper presented at the 39th Hawaii International Conference on System Sciences, Hawaii.

Griffin, J. (1995). Customer loyalty: How to earn it, how to keep it. New York, NY: Lexington Books.

Gronroos, C. (1990) *Service Management and Marketing. Managing Moments of Truth in Service Competition*. Lexington, MA: Lexington Books.

Grönroos, C. (1994). The marketing strategy continuum: Towards a marketing concept for the 1990s. *Management Decision, 29*, 7-13.

Gronroos, C. (1996) Relationship Marketing Logic. *Asia-Australia Marketing Journal*, 4(1), PP. 7-18.

Gruen, T.W. (1997), "Relationship marketing: the route to marketing efficiency and effectiveness", *Business Horizon*, pp.32-38.

Gu, J. C., Lee, S. C., & Suh, Y. H. (2009). Determinants of behavioral intention to mobile banking. *Expert Systems with Applications* (in press).

Gummerus, J., Liljander, V. P. M. & Riel, A. V. (2004). Customer loyalty to content-based Web sites: The case of an online health-care service. *Journal of Services Marketing,* 18, 175-186.

Gummesson, E. (2004). Return on relationships (ROR): The value of relationship marketing and CRM in business-to-business contexts. *The Journal of Business and Industrial Marketing, 19*(2), 136-148.

Guru, B.K., Vaithilingam, S., Ismail, N., Prasad, J. (2004). Electronic Banking in Malaysia: A Note on Evolution of Services and Consumer Reactions, Sources: http://www.arraydev.com/commerce/jibc/0001-07.htm

Gwinner, K. P., Gremler, D. D., & Bitner, M. J. (1998). Relational benefits in service industries: The customer's perspective. *Journal of Academy of Marketing Science, 26*(2), 101-114.

Hackman D., Gundergan S. P., Wang, P., & Daniel, K. (2006). A service perspective on modeling intentions of on-line purchasing. *Journal of Services Marketing, 20*(7), 459-470.

Hair, J. F. Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River, NJ: Prentice-Hall.

Hair, J.F. Jr, Money, A.H., Samouel, P. and Page, M. (2007), *Research Methods of Business*. London John Wiley & Sons Ltd, Chichester.

Hamid, N. R. A. (2006). *An assessment of the Internet's potential in enhancing consumer relationships.* Un-published PHD thesis. School of Information Systems, Faculty of Business and Law, Victoria University of Technology.

Head, M. M., & Hassanein, K. (2002). Trust in e-Commerce: Evaluating the impact of third-party seals. *Quarterly Journal of Electronic Commerce, 3*(3), 307-325.

Heinonen, K. (2006). Temporal and spatial e-service value. *International Journal of Service Industry Management, 17*, 380-400.

Hendricks, K.B., Singhal, V.R., Stratman, J.K. The impact of enterprise systems on corporate performance: A study of ERP, SCM, and CRM system implementations Journal of Operations Management, 25 65–82.

Hernandez, J. M. C., & Mazzon, J. A. (2006). Adoption of internet banking: Proposition and implementation of an integrated methodology approach. *International Journal of Bank Marketing, 25*(2), 72-88.

Heskett, J. L., Sasser, W. E. J., & Schlesinger, L. A. (1997). The service profit chain: How leading companies link profit and growth to loyalty, satisfaction, and value. New York, NY: The Free Press.

Hitt, L.M. and Frei, F.X. (2002), "Do better customers utilize electronic distribution channels? The case of PC banking", Management Science, Vol. 48 No. 6, pp. 732-748.

Ho, S. H. & Ko, Y. Y. (2008). Effects of self-service technology on customer value and customer readiness: The case of Internet banking. *Internet Research, 18*(4), 427-446.

Hoffman D. L., Novak T. P., & Peralta M. (1999). Building consumer trust online. *Communications of the ACM, 42*(4), 80-85.

Hong, S.J., Thong, J.Y.L., and Tam, K.Y. (2006). Understanding continued IT usage behaviour: A comparison of three models in the context of mobile Internet, *Decision Support Systems,* 42, 3 pp. 1819-1834.

Hsiu, C. H. (2007). Customer Relationship Management in Hypermarket. Unpublished master's thesis, Tatung University Taipei, Taiwan, Republic of China.

Hsu, M.-H., & Chiu, C.-M. (2004). Predicting electronic service continuance with a decomposed theory of planned behaviour. Behaviour & Information Technology, 23(5), 359–373.

Hsu, M.-H., Yen, C.-H., Chiu, C.-M., & Chang, C.-M. (2006). A longitudinal investigation of continued online shopping behavior: An extension of the theory of planned behavior. International Journal of Human–Computer Studies,64(9), 889–904.

Hurley, R. F., & Hult, G. T. M. (1998). Innovation, market orientation, and organizational learning: An integration and empirical examination. *Journal of Marketing*, *62*, 42-54.

Ibrahim, E. E., Joseph, M., & Ibeh, K. I. N. (2006). E-service delivery components. *International Journal of Bank Marketing, 24*(7), 475-493.

Ismail, H., & Khatibi, A. (2004). A study on relationship between perception of value and price and customer satisfaction: The case of Malaysian Telecommunications Industry. *Journal of American Academy of Business, 4*, 309-313.

Jackson, B. B. (1985). Build customer relationships that last. *Harvard Business Review, Nov-Dec*, 120-128.

Janda, S., Trocchia, P. J., & Gwinner, K. (2002). Consumer perceptions of internet retail service quality. *International Journal of Service Industry Management, 13*(5), 412-431.

Janowski, W., & Marcus, C. (2002). Managing conflicts of customer insight and privacy in CRM. Publication Date: 5 June 2002/ ID Number: A V-16-6853 Page 2002 Gatner, Ins. And/or its Affiliates. All Rights Reserved. 1-3.

Jarvenpaa, S. L., Tractinsky, N., & Vitale, M. (1999). Consumer trust in an Internet store. *Information Technology and Management, 1*(12), 45-71.

Jayachandran, S., Sharma, S., Kaufman, P., & Raman, P. (2005). The role of relational information processes and technology use in customer relationship management. *Journal of Marketing, 69*, 177-192.

Jen, W., Hu, K.C. (2003) Application of perceived value model to identify factors affecting passengers' repurchases intentions on city bus: a case of the Taipei metropolitan area. Transportation **30**(3), pp. 307–327

Jensen, H. R. (2001). Antecedents and consequences of consumer value assessments: implications for marketing strategy and future research. *Journal of Retailing and Consumer Services, 18*, 299-310.

Jobber, D. Mirza, H. and Wee, K.H. (1991) Incentives and Response Rates to Cross-National Business Surveys: A Logit Model Analysis, Journal of International Business Studies, 22(4), pp. 711-721.

Joseph M., Sekhon, Y., Stone, G., & Tinson, J. (2005). An exploratory study on the use of banking technology in the UK: A ranking of importance of selected technology on consumer perception of service delivery performance. *International Journal of Bank Marketing, 23*(5), 397-413.

Jukic, N., Jukic, B., Meamber, L. A., & Nezlek, G. (2002). Implementing polyinstantiation as a strategy for electronic commerce customer relationship management. *International Journal of Electronic Commerce in Organizations, 7*(2), 9-30.

Karahanna, E., Straub, D. W., & Chervany, N. L. (1999). Information technology adoption across time: A cross-sectional comparison of pre-adoption and post-adoption beliefs. *MIS Quarterly, 23*(2), 183-312.

Karjaluoto, H., Mattila, M., & Pento, T. (2002). Factors underlying attitude formation towards online banking in Finland. *International Journal of Bank Marketing*, 20(6), 261-272.

Karuga, G., A. Khraban and S. Nair, AdPalette: An Algorithm for Customizing Online Advertisementson the Fly. *Decision Support Systems*, 2001, **32**, 85-106.

Kemp, 1st name, & Moore, 1st name (2007). Privacy Library Hi Tech. Emerald Group Publishing Limited this is not a journal. Check the actual journal's name, 25(1), 58-78.

Kerlinger, F. N. (1973). *Foundation of behavioral research* (2nd ed.). New York: Holt, Rinehart and Winston.

Kervenoael, R. D., Soopramanien, D., Hallsworth, A., & Elms, J. (2007). Personal privacy as a positive experience of shopping: An illustration through the case of online grocery shopping. *International Journal of Retail & Distribution Management, 35*, 583-599.

Khalifa, A.S. (2004), "Customer value: a review of recent literature and an integrative configuration", *Management Decision*, Vol. 8 No.5, pp.645-666.

Khalifa, M., & Shen, N. (2005). Effects of electronic customer relationship management on customer satisfaction: A temporal model. In the 38th Annual Hawaii International Conference on System Sciences, 3-6 January 2005 (pp. 171a). Hawaii, USA.

Khalili M.M.R. (2005). "Market Orientation, relationship Marketing Environmental Factors And Business Performance: A Study In Malaysian Services Organizations" Unpublished PhD Research Universiti Sains Malaysia.

Kim, J. W., Choi, J., Qualls, W., & Park, J. (2004). The impact of CRM on firm-and relationship-level performance in distribution networks. *Communication of the Association for Information Systems, 14*, 632-652.

Kim, J., Suh, E., & Hwang, H. (2003). A model for evaluating the effectiveness of crm using the balance scorecard. *Journal of Interactive Marketing, 17*(2), page 239-249.

Kim, S., & Stoel, L. (2004). Apparel retailers: Website quality dimensions and satisfaction. *Journal of Retailing and Consumer Services, 11*(2), 109-117.

Kim, W. G., & Cha, Y. (2002). Antecedents and consequences of relationship quality in hotel industry. *International Journal of Hospitality Management, 21*, 321-338.

Kincaid, J. W. (2003). *Customer relationship management*. New Jersey, NJ: Prentice Hall.

Konana, P. Balasubramanian S. (2005).The social–economic–psychological model of technology adoption and usage: an application to online investing, *Decision Support Systems* 39 (3) 505–524.

Kotler, P. (1988). *Marketing Management: Analysis, Planning and Control.* (6th ed.). Englewood Cliffs, NJ: Prentice-Hall International.

Kotler, P. (1997). *Marketing management: Analysis, planning, implementation, and control* (9th ed.). Englewood Cliffs, NJ: Prentice Hall International.

Kotorov, R., (2003). Customer relationship management: Strategic lessons and future directions. *Business Process Management Journal, 9*(5), 566-571.

Kumar, V., Bohling, T. R., & Ladda, R. N. (2003). Antecedents and consequences of relationship intention: Implications for transaction and relationship marketing. *Industrial Marketing Management, 32*, 667-676.

Laforet, S., & Li, X. (2005). Consumers' attitudes towards online and mobile banking in China. *International Journal of Bank Marketing, 23*(5), 362-380.

Lallmahamood, M. (2007). An examination of individual's perceived security and privacy of the internet in Malaysia and the influence of this on their intention to use e-commerce: Using an extension of the technology acceptance model. *Journal of Internet Banking and Commerce, 12*(3), 1-26.

Lam, S. Y., Shankar, V., Erramilli, M. K., & Murthy, E. (2004). Customer value, satisfaction, loyalty, and switching costs: An illustration from a business-to-business service context. *Journal of the Academy of Marketing Science, 32*(3), 293-311.

Lang, B., & Colgate, M. (2003). Relationship quality, on-line banking and the information technology gap. *The International Journal of Bank Marketing, 21*(1), 29-37.

Lassar, W.M., Manolis, C. and Lassar, S.S. (2005) The relationship between consumer innovativeness, personal characteristics and online banking adoption, International Journal of Bank Marketing, Vol. 23, No. 2, pp. 176-199.

Lavender, M. (2004). Maximising customer relationships and minimising business risk, International Journal of Bank Marketing, 22(4), pp. 291 – 296

Lederer, A.L. Maupin, D.J.. Sena, M.P. Zhuang, Y (2000). The technology acceptance model and the World Wide Web, *Decision Support Systems* 29 (3) 269–282

Lee, G. and Lin, H. (2005), "Customer perceptions of e-service quality in online shopping", International Journal of Retail & Distribution Management, Vol. 33 No. 2, pp. 161-76.

Lee, M. C. (2008). Factors influencing the adoption of internet banking: An integration of TAM 3 and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications, volume,* 6 journal homepage: www.elsevier.com/locate/ecra

Lee, M. K. O., & Turban, E. (2001). A trust model for consumer Internet shopping. *International Journal of Electronic Commerce, 6*(1), 75-91.

Lee, Y., Kozar, K., & Larsen, K. (2003). The technology acceptance model: Past, present, and future. *Communications of the Association for Information Systems, 12,* 752-780.

Lewicki, R. J., & Bunker , B. B. (1995). Developing and maintaining trust in work relationships. In R. M. Kamer, & T. R. Tyler (Eds.), *Trust in organizations: Frontiers of theory and research* (pp. 114-139). Thousand Oaks, California, Sage Press.

Lewis, B.R (1991), "Service quality: an international comparison of bank customers' expectations and perceptions", *Journal of Marketing Management*, Vol. 7 pp.47-62.

Lin, C.S., Wu, S. and Tsai, R.J. (2005). Integrating perceived playfulness into expectation-confirmation model for web portal context. Information & Management,. 42: p. 683-693.

Lin, H. F. (2007). The role of online and offline features in sustaining virtual communities: An empirical study. *Internet Research, 17*(2), 119-138.

Lindgreen, A., & Antioco, M. (2005). Customer relationship management: The case of a European bank. *Marketing intelligence & Planning, 23*(2), 136-154.

Liu, H. Y. (2007). Development of a framework for customer relationship management (CRM) in the banking industry. *International Journal of Management, 24*(1), pp. 15-32.

Liu, X., He, M., Gao, F., & Xie, P. (2006). An empirical study of online shopping customer satisfaction in China: A holistic perspective. *International Journal of Retail & Distribution Management, 36*(11), 919-940.

Lockett , A., & Littler, D. (1997). The adoption of direct banking services. *Journal of Marketing Management, 13*(8), 791-811.

Ma, Q., & Liu, L. (2004). The technology acceptance model: a meta-analysis of empirical findings. *Journal of Organizational and End User Computing, 16*(1), 59-72.

MacKenzie, R. (2001). *The relationship-based enterprise: powering business success through customer relationship management.* Ryerson, Toronto: McGraw-Hill.

MacMillan, K., Money, K., Money, A., & Downing, S. (2004). Relationship marketing in the not-for-profit sector: An extension and application of the commitment-trust theory. *Journal of Business Research.* Vol. 8 pp.38-43.

Maheshwari, A. (2001). " Add 'E' for Efficiency. Computers Today. Aug 1 – 15. [Online] Internet: http://www.india-today.com (accessed 21 May 2007)."

Matteson, M. T., Ivancevich, J. M., & Smith, S. V. (1984). Relation of Type A behavior to performance and satisfaction among sales personnel. *Journal of Vocational Behavior, 23*, 203-214.

Mavri, M., & Ioannou, G. (2008). Customer switching behavior in Greek banking services using survival analysis. *Managerial Finance, 34*, 186-197.

McCalla, R., Ezingeard, J. N., & Money, K. (2003). A Behavioral Approach to CRM Systems Evaluation. *Electronic Journal of Information Systems Evaluation, 6*(2), 145-154.

McKnight, D. H. (2005). Trust in information technology. In G. B. Davis (Ed.), *The Blackwell Encyclopedia of Management* (Vol. 7, pp. 329-331). Malden, MA: Blackwell.

Menon, S., & Kahn, B. (2002). Cross-category effects of induced arousal and pleasure on the Internet shopping experience. *Journal of Retailing, 78*, 31-42.

Methelie, L., & Nysveen, H. (1999). Loyalty of on-line bank customers. *Journal of Information Technology, 14*, 375-386.

Min, S., & Mentzer, J. T. (2000). The role of marketing in supply chain management. *International Journal of Physical Distribution and Logistics, 30*(9), 765-787.

Ministry of Higher Education Statistic report, 2006

Ministry of Higher Education Statistic Report, 2007

Mithas, S., Krishnan, M. S., & Fornell, C. (2005). Why do customer relationship management applications affect customer satisfaction? *American Marketing Association, 69*(October), 201-209.

Moore, G., & Benbasat, C. (1991) Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research, vol.7, pp. 231-241.*

Mokhlis, S., Salleh, H.S., Mat, N.H.N. (2009). Commercial Bank Selection: Comparison between Single and Multiple Bank Users in Malaysia. *International Journal of Economics and Finance*, 1 (2), pp. 263-273.

Mukherjee, A., & Nath, P. (2003). A model of trust in online relationship banking. *The International Journal of Bank Marketing, 21*(1), 5-16.

Mulligan, P., & Gordon, S. R. (2002). The impact of information technology on customer and supplier relationships in the financial services. *International Journal of Service Industry Management, 13*(1), page 891-991.

Ndubisi, N.O., & Sinti, Q. (2006). Consumer attitudes, system's characteristics and Internet banking adoption in Malaysia. *Management Research News, 29*, pp. 16-27.

Nelsen, J. F. (2002). Internet technology and customer linking in Nordic banking. *International Journal of Service Industry Management, 13*(5), page 654-664.

Ngai, E. W. T. (2003). Internet Marketing Research (1987-2000): A Literature Review and Classification. *European Journal of Marketing, Vol. 37*, No. 1/2, pp. 24-49.

Nicholson, P.J. & Goh, S.C. (1983). The relationship of organization structure and interpersonal attitudes to role conflict and ambiguity in different work environments. Academy of Management Journal, 26, 1, 148-155.

Nugroho, A. (2007). The impact of service quality performance on purchase intention. Unpublished doctoral dissertation, Universiti Utara Malaysia, Kedah, Malaysia.

Nunally, J. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw-Hill.

O'Cass, A., & Fenech, T. (2003). Web retailing adoption: Exploring the nature of internet users web retailing behavior. *Journal of Retailing and Consumer Services, 10*, 81-94.

O'Malley, L., & Prothero, A. (2004). Beyond of frills of relationship marketing. *Journal of Business Research, 57*, 1286-1294.

Oaks, S. (2003). "What is CRM? A Primer on Customer Relationship Management." Baseline Consulting Group Inc.www.baseline-consulting.com.

Oyedele A., & Simpson, P. N. (2007). An empirical investigation of consumer control factors on intention to use selected self-service technologies. *International Journal of Service Industry Management, 18*(3), 287-306.

Pallant, J. (2001). *SPSS survival manual: A step by step guide to data analysis using SPSS for Windows (version 10).* Chicago, Illinois: SPSS Inc.

Palmer, J.W. (2002), "Web site usability, design, and performance metrics", Information Systems Research, Vol. 13 No. 2, pp. 151-167.

Pan, S., & Lee, J. N. (2003). Using e-CRM for a unified view of the customer. *Communications of ACM, 46*(4), 95-99.

Pang, J. (1995), Banking and Finance Malaysia, Federal Publications Sdn. Bhd., Malaysia Philip, Jim (1996) " Bytes of Cash: Banking, Computing and Personal Finance." at http://www.firstmonday.

Parasuraman, A., & Grewal, D. (2000). The impact of technology on the quality-value-loyalty chain: A research agenda. *Academy of Marketing Science, 28*, 168-174.

Parasuraman, A., & Zinkhan, G. M. (2002). Marketing to and serving customers through the internet: An overview and research agenda. *Journal of the Academy of Marketing Science, 30*(4), 286-295.

Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005) E-S-Qual: A multiple item scale for measuring electronic service quality. *Journal of Service Research, 7*, 213-233.

Parvatiyar, A., & Sheth, J. N. (2001). Customer relationship management: Emerging practice, process, and discipline. *Journal of Economic and Social Research, 3*, 1-34.

Patrick, A.S. (2002) Building trustworthy software agents. *IEEE Internet Computing, 6(6), 46-53.*

Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce, 7*, 101-134.

Peelen, E. Customer Relationship Management, Prentice Hall, Pearson Education Benelux BV, Amsterdam. (2005).

Perrien, J., Filiatrault, P., & Ricard, L. (1992) Relationship marketing and commercial banking: A critical analysis. *International Journal of Bank Marketing, 10*, 25-29.

Peters, L. D. (1997). IT enabled marketing: a framework for value creation in customer relationships. *Journal of Marketing Practices: Applied Marketing Science, 3*(4), 213-229.

Pheng, L.S. (1999), The extension of construction partnering for relationship marketing, Marketing Intelligence & Planning. 17(3), pp. 155 – 162.

Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnila, S. (2004). Consumer acceptance of online banking: An extension of the technology acceptance model. *Internet Research, 14*(3), 224-235.

Plessis, M., & Boon, J. A. (2004). Knowledge management in e-business and customer relationship management: South African case study findings.

Postma, O. J., & Brokke, M. (2002). Personalization in practice: The proven effects of personalization. *The Journal of Database Marketing, 9*(2), 137-142.

Priluck, R. (2003). Relationship marketing can mitigate product and service failures. *Journal of Services Marketing, 17*(1), 37-52.

Ptricio L., Fisk, R. P., & Cunha, J. F. (2003). Improving satisfaction with bank service offerings: Measuring the contribution of each delivery channel. *Managing Service Quality, 13*(6), 471-482.

Rai, A., Lang, S.S., Welker, R.B., 2002. Assessing the validity of IS success models: an empirical test and theoretical analysis. Information Systems Research 13 (1), 50–69.

Rao, S., & Perry, C. (2002). Thinking about relationship marketing: Where are we now? *Journal of Business & Industrial Marketing, 17*(7), 598-614.

Rashid, T. (2003). Case study: Relationship marketing - Case studies of personal experiences of eating out. *British Food Journal, 105*(10), 742-750.

Reichheld, F. F., & Schefter, P. (2000) E-loyalty: Your secret weapon on the web. *Harvard Business Review, 78*, 105-113.

Reinartz, W., Krafft, M., & Hoyer, W. D. (2004). The customer relationship management process: Its measurement and impact on performance. *Journal of Marketing Research, 41*(3), 293-305.

Rexha, N., Kingshott, R. P. J., Aw, A. S. S. (2003). The impact of relational plan on adoption of electronic banking. *Journal of Services Marketing, 17*(1), 53-67.

Roberts, K.,Varki, S., & Brodie, R. (2003). Measuring the quality of relationships in consumer services: An empirical study. *European Journal of Marketing, 37*, 169-196.

Roslin, R. M., & Melewar, T. C. (2004). Linking practices reflective of "Asian values" and relationship marketing in the grocery distribution channels in Malaysia. *International Journal of Retail and Distribution Management, 32*(1), 33-44.

Rotchanakitumnuai, S., & Speece, M. (2003). Assessing Thai Internet banking benefits: A qualitative study among Thai Internet. *International Journal of Bank Marketing, 21*(6/7), 312-323.

Rowly, J. (2004). Partnering paradigms? Knowledge management and relationship marketing. *Industrial Management and Data Systems, 104*(2), 149-157.

Rust, R. T., Zahorik, A. J., & Keiningham, T. L. (1995). Return of quality (ROQ): Making service quality financially accountable. *Journal of Marketing, 59*(58-70).

Rust, R. T., Zeithaml, V. A., & Lemon, K. N. (2000). *Driving customer equity: How customer lifetime value is reshaping corporate strategy*. New York, NY: The Free Press.

Ryals, L., & Knox, S. (2001). Cross-functional issues in the implementation of relationship marketing through customer relationship management. *European Management Journal, 19*(5), 534-542.

Salisbury, W. D., Pearson, R. A., Pearson, A. W., & Miller, D. W. (2001). Perceived security and World Wide Web purchase intention. *Industrial Management & Data Systems, 101*(4), 65-176.

Sathye, M. (1999). Adoption of Internet banking by Australian consumers: An empirical investigation. *International Journal of Bank Marketing, 17*(7), 324-334.

Seeman, E. D., & O'Hara, M. (2006). Customer relationship management in higher education: Using information systems to improve the student-school relationship. *Campus Wide Information Systems, 23*(1), 24-34.

Sekaran, U. (1992). *Research method for business: A skill building approach* (2nd ed.). New York: John Wiley & Sons, Inc.

Sekaran, U. (2000). *Research Methods for Business: A Skill Building Approach* (**3rd** ed.), New York John Wiley and Sons.

Sekaran, U. (2005). *Research method for business: A skill building approach* (edition?). Place: Publisher.

Seock, Y. K. (2003). Analysis of clothing websites for young customer retention based on a model of customer relationship management via the Internet. Unpublished doctoral thesis, Virginia Polytechnic Institute and State University.

Shalhoub, Z. K. (2006). Trust, privacy, and security in electronic business: The case of GCC countries. *Information Management and Computer Security, 14*(3), 270-283.

Shani D., & Chalasani, S. (1992).Exploiting Niches Using Relationship Marketing. *Journal of Consumer Marketing, 9*(3), 33-42.

Shanmugam, B., & Guru, B. K. (2003). *Electronic banking in Malaysia*. Kuala Lumpur: Institut Bank-Bank Malaysia.

Sheehan, K. B., & Hoy, M. G. (2000). Dimensions of Privacy Concern Among Online Consumers. *Journal of Public Policy & Marketing, 19*, 62-73.

Sheth, J. N. (2002). The future of relationship marketing. *Journal of Services Marketing, 16*(7), 590-592.

Sheth, J. N., & Shah, R. H. (2003). Till death do us part...but not always: Six antecedents to a customer's relational preference in buyer-seller exchanges? *Industrial Marketing Management, 32*, 676-631.

Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). *Consumption values and market choice*. Cincinnati, OH: South Western Publishing.

Shih, H. P. (2004). An empirical study on predicting user acceptance of e-shopping on the Web. *Information & Management, 41*, 351-368.

Shih, Y., & Fang, F. (2004). The use of a decomposed theory of planned behavior to study internet banking in Taiwan. *Internet Research, 14*, 213-223.

Shin, D. H. (2009). Towards an understanding of the consumer acceptance of mobile wallet. Computers in Human Behavior, volume, pp. xxx. www.elsevier.com/locate/comphumbeh

Shoniregun, C. A., Omoegun, A., Brown-West, D., & Logvynovskiy, O. (2004). *Can e-CRM and Trust improve e-C customer base?* Paper presented at the IEEE International Conference on E-Commerce Technology, (2004), July, San Diego, California, USA.

Sin, L. Y. M., Tse, A. C. B., Yau, O. H. M., Chow, R. P. M., Lee, J. S. Y., & Lau, L. B. Y. (2005). Relationship marketing orientation: scale development and cross-cultural validation. *Journal of Business Research, 58*, 227-239.

Sin, L.Y.M., Tse, A.C.B., Yau, O.H.M., Lee, J.S.Y. and Chow, R. (2002), "The effect of relationship marketing orientation on business performance in a service-oriented economy", Journal of Services Marketing, Vol. 16 No. 7, pp. 656-76.

Singh, R. (2003). Developing relationship marketing with customers: a scandunavian perspective. Library Management, 24(1/2), 34-43.

Singh, T., & Hill, M. E. (2003). Consumer privacy and the Internet in Europe: A view from Germany. *Journal of Consumer Marketing, 20*, 634-651.

SKMM, M. C. A. M. C. (2008). Household use of the Internet Survey 2008. Malaysian Communications and Multimedia Commission. Retreived July 15, 2009, from http://www.skmm.gov.my/

Slater, S. F. (1997). Developing a customer value-based theory of the firm. *Journal of the Academy of Marketing Science, 25*, 162-167.

Snellman, K., & Vihtkari, T. (2003). Customer complaining behavior in technology-based service encounters. *International Journal of Service Industry Management, 14*(2), 217-231.

Sohail, M., & Shanmugham, B. (2003). E-banking and customer preferences in Malaysia: An empirical investigation. *Information Sciences, 150*, 207-217.

Song, J., & Zahedi, F. M. (2002). A theoretical framework for the use of web infomediaries. In J. DeGross (Ed.), *Proceedings of the 8th Americas Conference in Information Systems* (pp. 2250-2256). New York, NY: ACM.

Storbacka, K., Strandvik, T., & Gro¨nroos, C. (1994). Managing customer relationships for profit: The dynamics of relationship quality. *International Journal of Service Industry Management, 5*, 21-38.

Styles, C., & Ambler, T. (2003). The coexistence of transaction and relational marketing: insights from the Chinese business context. *Industrial Marketing Management, volume*, pp. 763-773.

Suh, B., & Han, I. (2002) Effects of trust on customer acceptance of Internet banking. *Electronic Commerce Research and Applications* **1**, 247-263.

Sundarraj, R., & Wu, J. (2005). Using information-systems constructs to study online and telephone-banking technologies. Electronic Commerce Research and Applications, 4(4), 427-443.

Tabachnick, B., & Fidell, L. (1996). Using multivariate statistics. New York: Harper Collins.

Tafti, M. H. A., & Shirani, A. I. (1997). Patterns of use and prospects for adoption of the Internet technology: An empirical study. *Journal of Computer Information Systems, volume*, 104-111.

Tan, X., Yen, D. C., & Fang, X. (2002). Internet integrated customer relationship management: a key success factor for companies in the e-commerce arena. *Journal of Computer Information Systems,Spring volume*, 77- 86.

Tao, Z. (2008). *The impact of privacy concern on m-commerce user acceptance.* The 3rd International Conference on Grid and Pervasive Computing – Workshops, IEEE Xplore. 25-28 May 2008, pp. 245 – 249.

Taylor S., Todd, P.A. (1995) Assessing IT usage: the role of prior experience, MIS Quarterly 19 (4) 561–570.

Taylor, S. A., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research, 6*, 144-176.

Taylor, S. A., Celuch, K., & Goodwin, S. (2002). Technology readiness in the e-insurance industry: An exploratory investigation and development of an agent technology e-consumption model. *Journal of Insurance Issues, 25*(2), 142-166.

Teo, T. S. H., Srivastava, S. C., & Jiang, L. (2008). Trust and electronic government success: An empirical study. *Journal of Management Information Systems,* 25(3), 99-131.

Thong, J.Y.L., Hong, S.-J. and Tam, K.Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance. Human-computer Studies,. 64: p. 799-810.

Thorbjornsen, H., Supphellen, M., Nysveen, H., & Pedersen, P. E. (2002). Building brand relationships online: A comparison of two interactive applications. *Journal of Interactive Marketing, 16*, 17-34.

Tomer, J.F. (1998), "Beyond transaction markets toward relationship: marketing in the human firm: a socio-economic model", *The Journal of Socio-Economics*, Vol. 27 No.2, pp.207-228.

Udo, G. J. (2001). Privacy and security concerns as major barriers for e-commerce: a survey study. *Information Management & Computer Security, 9*(4), 165-174.

Van Eeden, E. (2000). *Current issues in managing customer relationships*. Rand Afrikaans University, Johannesburg.

Van Riel, A. C. R., Liljander, V., & Jurrie¨ns, P. (2001). Exploring consumer evaluations of e-services: A portal site. *International Journal of Service Industry Management, 12*(4), 359-377.

Vatanasombut, B., Igbaria, M., Stylianou, A. C., & Rodgers W. (2008). Information systems continuance intention of web-based applications customers: The case of online banking. *Information Management*, 3(5), pp.

Venkataramana, V. & Somayajulu, G. (2002). Customer relationship management: a key to corporate success, New Delhi: Excel Books.

Venkatesh, V., & Davis, F. D. (1996). A model of the antecedents of perceived ease of use: Development and test. *Decision Sciences, 27*(3), 451-481.

Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*, 425-478.

Wahab, S. and Hassan, I., (2005). Learning Strategies and Contextual Factors in Adopting Office Technology by Older Office Workers, Institute of Research, Development and Commercialisation, Universiti Teknology MARA. Unpublished research.

Wang, Y. S., Wang, Y. M., Lin H. H., & Tang, T. I. (2003). Determinants of user acceptance of Internet banking: An empirical study. *International Journal of Service Industry Management, 14*(5), 501-519.

Wang, Y., Lo, H. P., Chi, R., & Yang, Y. (2004). An integrated framework for customer value and customer-relationship management performance: A customer-based perspective from China. *Managing Service Quality, 14*, 169-182.

Warren, S. D., & Brandeis, L. D. (1890). The right to privacy. *Harvard Law Review, 4*, 192-220.

Webster, F. E. (1992). The changing role of marketing in the corporation. *Journal of Marketing*, 56(9), 1-17.

Wells, J. D., Fuerst, W. L., & Choobineh, J. (1999). Managing information technology (IT) for one-to-one customer interaction. *Information & Management, 35*, 54-64

West, J. (2001). Customer relationship management and you, *IIE Solutions*, 33 (4), pp.34-7.

White, H., & Nteli, F. (2004). Internet banking in the UK: Why are there not more customers? *Journal of Financial Services Marketing, 9*, 49-57.

Williams, M. R. (1998). The influence of salesperson' customer orientation on buyer-seller relationship development. *Journal of Business and Industrial Marketing, 13*(3), 271-287.

Winer, R. S. (2001). A framework for customer relationship management. *California Management Review, 43*, 89-104.

Wisner J. D., & Corney, W. J. (2001). Comparing practices for capturing bank customer feedback. *Benchmarking: An International Journal,* 8(3), pp. 98-108.

Woodruff, R. B. (1997). Customer value: The next source for competitive advantage? *Journal of the Academy of Marketing Science, 25*(2), 139-153.

Wright, N.D., Pearce, J.W., & Bushbin, J.W. (1997). Linking customer service orientation to competitive performance: Does the marketing concept really work? Journal of Marketing Theory, 5, 4, 23-34.

Wu, H-L, W. (2007). *An integrative analysis of service quality, perceived value, satisfaction and behavioral intentions: The empirical study of outpatient services*. Unpublished doctoral thesis, University of Taiwan.

Xu, Y., Yen, D. C., Lin, B., & Chou, D. C. (2002). Adopting customer relationship management technology. *Industrial Management & Data Systems, 102*(8), 442-452.

Yang, Z., Jun, M., & Peterson, R. T. (2004). Measuring customer perceived online service quality. *International Journal of Operations and Production Management, 24*(11), 1149-1174.

Yen, C. H., & Lu H. P. (2008). Effects of e-service quality on loyalty intention: An empirical study in online auction. *Managing Service Quality, 18*(2), 127-146.

Yeoh, A. (2006). *OCBC bank rolls out CRM Solution*. Kuala Lumpur: New Straits Times. NST Sdn bhd.

Yoon, S. J. (2002). The antecedents and consequences of trust in online purchase decision. *Journal of Interactive Marketing, 16*(2), 47-63.

Zaayman, P. (2003). *Functional requirements of e-CRM solutions for the South African SME sector.* Unpublished doctoral thesis, Rand Afrikaans University, Johannesburg.

Zablah, A. R. (2005). *A communication based perspective on customer relationship management (CRM) success*. Unpublished doctoral thesis, J. Mack Robinson College of Business Georgia State University.

Zablah, A. R., Bellenger, D. N., & Johnston, W.J. (2004). An evaluation of divergent perspectives on customer relationship management: Towards a common understanding of an emerging phenomenon. *Industrial Marketing Management, 33*, 475-489.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality and value: A means-end model and synthesis of evidence. *Journal of Marketing, 52*(2), 2-22.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing, 60*, 31-46.

Zeithaml, V., Parasuraman, A., & Malhorta, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science, 30*(4), 362-375.

Zhang, X., Prybutok, V., & Huang, A. (2006). An empirical study of factors affecting e-service satisfaction. *Human Systems Management, 25*(4), 279-291.

Zineldin, M., & Jonsson, P. (2000). An examination of the main factors affecting trust/commitment in supplier-dealer relationships: An empirical study of the Swedish wood industry. *The Total Quality Management Magazine, 12*(4), 245-265.

APPENDIX A
RESEARCH QUESTIONNAIRE

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CUSTOMER RELATIONSHIP MANAGEMENT PERFORMANCE SURVEY

Dear Respected Respondents,

The purpose of this survey is to investigate the level of customer relationship management performance among the electronic banking users. Besides that, it is also the aim of the study to identify the factors that may influence customer relationship management performance.

Therefore, I pledge you to spend a little time (approximately 15 minutes) to answer this survey. Your support is very important and highly critical to ensure the success of the study. I would like to ensure that all the information gained from this survey will be strictly confidential. The results from this research project will be used only for academic purposes and not for commercial purposes.

Please answer all questions. Please answer as honestly as possible. Your cooperation to complete the questionnaire ASAP is very much appreciated.

Thank you for your assistance

Samsudin Wahab
Email: samsudinw@tganu.uitm.edu.my
Phone: 019-9040180

Notes: Electronic banking services are referring to any of ***your experience regarding*** to the services below:

a) ***Self Service Terminals*** (Such as **ATMs** – cash withdrawal/money transfer/balance request, **Cash Deposit Machines**, **Check Deposit Machines**, **Passbook Update**)

AND / OR

b) ***Phone banking*** (Such as balance enquiries, fund transfers, bill payments, fixed deposit placements, Loan or credit card payments and check clearing status)

AND / OR

c) ***Mobile banking*** (similar to Phone banking function)

AND / OR

d) ***Internet banking*** (All banking transaction through online such as **online payment**, **online trading** etc.)

SECTION A: PERSONAL INFORMATION

The following section lists some questions about your personal information. Please tick (/) the appropriate answers.

1. Gender: i. Male [ ] ii. Female [ ]

2. Race: Malay [ ] Chinese [ ]
Indian [ ] Others [ ]

3. Age group: = 30 [ ] 31-35 [ ] 36 – 40 [ ]
41 – 45 [ ] 46 – 50 [ ] = 50 [ ]

4. Marital status: Married [ ] Single [ ]

5. Academic qualification:
Master's degree [ ]
PhD [ ]

6. Annual salaries
25,000 – 35,000 [ ]
35,000 – 45,000 [ ]
45,000 – 55,000 [ ]
> 55,000 [ ]

7. Working experience
1 – 4 years [ ]
4 – 7 years [ ]
7 – 10 years [ ]
= 10 years [ ]

8. Electronic banking services experience
= 1 year [ ]
2 – 4 years [ ]
5 – 7 years [ ]
8 – 10 years [ ]
= 10 years [ ]

SECTION B: CUSTOMER VALUE FACTOR

The statements below describe the various ways of the banks offered their electronic banking services. Refer to your most frequently used Electronic banking service; please **CIRCLE** your answer according to the following scale:

1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree

FACTOR 1: Customer Perceived Value

	Strongly Disagree				Strongly Agree
The electronic banking services offered makes me feel confident.	1	2	3	4	5
The electronic banking services offered are of high quality	1	2	3	4	5
The electronic banking services have consistent quality	1	2	3	4	5
The electronic banking services delivered is superior	1	2	3	4	5
The electronic banking services is the one that I would enjoy	1	2	3	4	5
The electronic banking services always makes me want to use it	1	2	3	4	5
The electronic banking services would give me fulfillment.	1	2	3	4	5
The electronic banking services would make me feels good.	1	2	3	4	5
The electronic banking services is one that I would feel relaxed about using	1	2	3	4	5
The electronic banking services would not improve the way I am perceived.	1	2	3	4	5
The electronic banking services would help me make a good impression on friends.	1	2	3	4	5
The electronic banking services would give me a friend's approval or respect.	1	2	3	4	5
The electronic banking services are at reasonably cost.	1	2	3	4	5
Based on my experience the electronic banking services offers value for money.	1	2	3	4	5
The electronic banking services would be economical	1	2	3	4	5
The electronic banking services is good for the cost saving.	1	2	3	4	5
The electronic banking services of my favorite's bank are value for money.	1	2	3	4	5
The choice of electronic banking services is a right	1	2	3	4	5

decision when cost and other expenses are considered.

SECTION C: TECHNOLOGY FACTORS

The statements below describe the various ways of the banks offered their electronic banking services. Refer to your most frequently used Electronic banking service; please **CIRCLE** your answer according to the following scale:
1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree

FACTOR 1: Trust

	Strongly Disagree				Strongly Agree
It was easy to get to do what I wants through Electronic banking service	1	2	3	4	5
It was easy for me to become skillful at Electronic banking service	1	2	3	4	5
It was easy to use Electronic banking service	1	2	3	4	5
Electronic banking service had the functionality I needed	1	2	3	4	5
Electronic banking service had the features required for my tasks	1	2	3	4	5
Electronic banking service had the overall capabilities I needed.	1	2	3	4	5
Electronic banking service provided competent guidance through a help function.	1	2	3	4	5
Electronic banking service provided the help I needed to complete tasks effectively.	1	2	3	4	5
Electronic banking services do not provide sensible and effective advice.	1	2	3	4	5
The reliability of electronic banking service makes me trusted it.	1	2	3	4	5
Electronic banking service was extremely dependable.	1	2	3	4	5
Electronic banking services does not improve my performance.	1	2	3	4	5
Electronic banking service improved my performance.	1	2	3	4	5
Electronic banking service enhanced my effectiveness.	1	2	3	4	5
Electronic banking service is useful.	1	2	3	4	5

FACTOR 3: Usefulness

	Strongly Disagree				Strongly Agree
The easier way of conducting electronic transaction makes my banking very useful	1	2	3	4	5
Electronic banking gives me greater control over my finances	1	2	3	4	5
Electronic banking allows me to manage my finances more efficiently	1	2	3	4	5
Electronic banking is inconvenient way to manage my finances	1	2	3	4	5
Electronic banking is more user-friendly than other existing channels	1	2	3	4	5
Electronic banking eliminates time constraint; thus I can use the banking services at any time I like	1	2	3	4	5
Electronic banking eliminates geographic limitation and increases flexible in mobility; thus I can bank any place that has the facilities	1	2	3	4	5

SECTION D: PROCESS FACTORS

The statements below describe the various ways of the banks offered their electronic banking services. Refer to your most frequently used Electronic banking service; please **CIRCLE** your answer according to the following scale:
1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree

FACTOR 1: Electronic Service Quality

	Strongly Disagree				Strongly Agree
The electronic banking services interface comprehend my specific needs	1	2	3	4	5
The electronic banking services interface comply with my requests	1	2	3	4	5
The electronic banking services interface gives me individual attention	1	2	3	4	5
The electronic banking services interface gives me personal attention when I encounter serious problems	1	2	3	4	5
The electronic banking services interface through the	1	2	3	4	5

help center have the ability to answer my questions					
The electronic banking services interface properly handle any problems that arise	1	2	3	4	5
My electronic banking transaction are always accurate	1	2	3	4	5
The electronic banking transaction keeps my records accurately	1	2	3	4	5
The electronic banking transaction performs the service correctly the first time	1	2	3	4	5
When the electronic banking interface or instruction promises to do something by a certain time, it does so	1	2	3	4	5
Using the electronic banking services interface requires a lot of effort	1	2	3	4	5
The organization and structure of electronic banking services interface is easy to follow	1	2	3	4	5
It is easy for me to complete a transaction through the electronic banking interface	1	2	3	4	5
The electronic banking services interface have the contents that meet my needs	1	2	3	4	5
I feel the risk associated with electronic banking transaction is low	1	2	3	4	5
I feel secure in providing sensitive information for electronic banking transaction	1	2	3	4	5
The electronic banking service provide a safety to ensure its quality	1	2	3	4	5
The electronic banking interface provides me many useful free services (e.g., message board)	1	2	3	4	5
The electronic banking interface provides limit ranges of product packages	1	2	3	4	5
The electronic banking interface provides services with the features I want	1	2	3	4	5

FACTOR 2: Perceived of Privacy

	Strongly Disagree				Strongly Agree
Electronic banking services shows concern for the privacy of its users	1	2	3	4	5
I feel safe when I send personal information to Electronic banking services	1	2	3	4	5
Electronic banking services abides by personal data protection	1	2	3	4	5
Electronic banking services only collects user personal data that are necessary for its activity	1	2	3	4	5
Electronic banking services respects the user's rights when obtaining personal information	1	2	3	4	5

Electronic banking services will not provide my personal information to other companies without my consent	1	2	3	4	5
Electronic banking services does not send e-mail advertising without the user's consent	1	2	3	4	5

FACTOR 3: Perceived of Security

	Strongly Disagree			Strongly Agree	
Electronic banking services have mechanisms to ensure the safe transmission of its users' information	1	2	3	4	5
Electronic banking services shows great concern for the security of any transactions	1	2	3	4	5
Electronic banking services has sufficient technical capacity to ensure that no other organization will supplant its identity on the internet	1	2	3	4	5
I am sure of the identity of this Electronic banking services when I establish contact via the internet	1	2	3	4	5
When I send data to these electronic banking services, I am not sure that they will not be intercepted by unauthorized third parties	1	2	3	4	5
Electronic banking services has sufficient technical capacity to ensure that the data I send will not be intercepted by hackers	1	2	3	4	5
When I send data to electronic banking services, I am not sure they cannot be modified by a third party	1	2	3	4	5
Electronic banking services has sufficient technical capacity to ensure that the data I send cannot be modified by a third party	1	2	3	4	5

SECTION E: CUSTOMER RELATIONSHIP MANAGEMENT PERFORMANCE

	Strongly Disagree			Strongly Agree	
I would like to continue this electronic banking services with the bank	1	2	3	4	5
I would like to recommend this electronic banking services offerings to others.	1	2	3	4	5
I would like to keep close relationship for a longer period	1	2	3	4	5

with my electronic banking services					
I feel disloyal to the offering of electronic banking services by this bank.	1	2	3	4	5
The electronic banking services offering are my first choice.	1	2	3	4	5
The electronic banking services offerings always meet my expectation.	1	2	3	4	5
Even with more choices, I will only choose my favorites electronic banking services.	1	2	3	4	5
Taking my experience with banks, I am satisfied with this electronic banking services offers	1	2	3	4	5
The electronic banking services offerings always meet the desirable level.	1	2	3	4	5

THANK YOU FOR YOUR COOPERATION

APPENDIX B
NON-RESPONSE BIAS TEST

Non Response Bias-Mean Scores for Early and Late Response (n=307)

	Batch	N	Mean	Std. Deviation	Std. Error Mean
Age	Early response	134	2.716	1.479	.127
	Late response	173	2.445	1.472	.111
Academic qualification	Early response	134	1.776	.667	.057
	Late response	173	1.670	.665	.050
Work experience	Early response	134	2.851	1.329	.114
	Late response	173	2.619	1.322	.100

t-Test between Early and Late Response by Age, Academic Qualification and Work Experience (n=307)

Variables	Sig.
Age	.111
Academic qualification	.170
Work experience	.129

Note: The critical values were all not significant

APPENDIX C
FACTOR ANALYSIS

Factor Analysis: CRM Performance

Correlation Matrix

		CRMP 1	CRMP 2	CRMP 3	CRMP 4	CRMP 5	CRMP 6	CRMP 7	CRMP 8	CRMP 9
Correlation	CRMP 1	1.000	.749	.777	.644	.693	.642	.548	.657	.610
	CRMP 2	.749	1.000	.753	.648	.669	.643	.495	.649	.548
	CRMP 3	.777	.753	1.000	.676	.671	.652	.516	.663	.652
	CRMP 4	.644	.648	.676	1.000	.786	.700	.524	.620	.651
	CRMP 5	.693	.669	.671	.786	1.000	.799	.618	.658	.715
	CRMP 6	.642	.643	.652	.700	.799	1.000	.564	.694	.709
	CRMP 7	.548	.495	.516	.524	.618	.564	1.000	.654	.609
	CRMP 8	.657	.649	.663	.620	.658	.694	.654	1.000	.772
	CRMP 9	.610	.548	.652	.651	.715	.709	.609	.772	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.925
Bartlett's Test of Sphericity	Approx. Chi-Square	2328.161
	df	36
	Sig.	.000

Communalities

	Initial	Extraction
CRMP1	1.000	.711
CRMP2	1.000	.674
CRMP3	1.000	.722
CRMP4	1.000	.697
CRMP5	1.000	.780
CRMP6	1.000	.733
CRMP7	1.000	.531
CRMP8	1.000	.719
CRMP9	1.000	.698

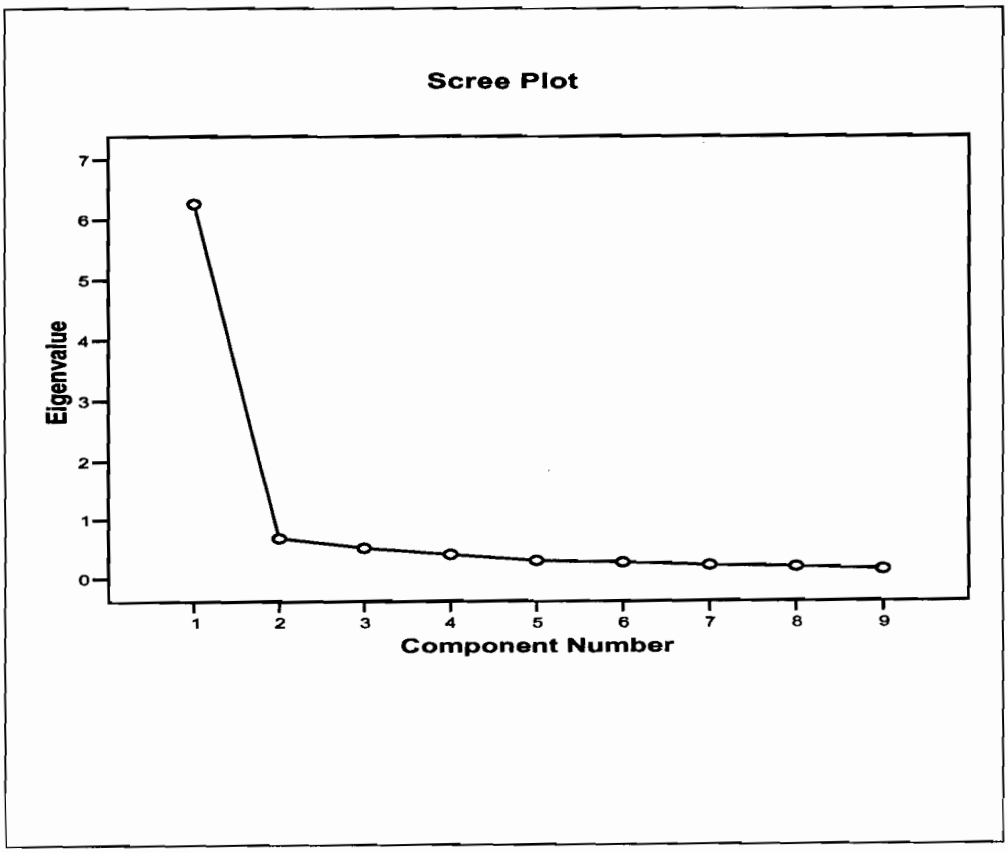
Extraction Method: Principal Component

Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.265	69.613	69.613	6.265	69.613	69.613
2	.684	7.600	77.212			
3	.517	5.748	82.961			
4	.406	4.507	87.467			
5	.300	3.330	90.798			
6	.269	2.987	93.785			
7	.219	2.435	96.220			
8	.194	2.152	98.372			
9	.147	1.628	100.000			

Extraction Method: Principal Component Analysis.



Factor Analysis: Influences Variables

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.883
Bartlett's Test of Sphericity	Approx. Chi-Square	27873.637
	df	3081
	Sig.	.000

Communalities

	Initial	Extraction
CPV1	1.000	.719
CPV2	1.000	.700
CPV3	1.000	.734
CPV4	1.000	.681
CPV5	1.000	.738
CPV6	1.000	.709
CPV7	1.000	.702
CPV8	1.000	.823
CPV9	1.000	.703
CPV10	1.000	.713
CPV11	1.000	.709
CPV12	1.000	.731
CPV13	1.000	.762
CPV14	1.000	.766
CPV15	1.000	.811
CPV16	1.000	.788
CPV17	1.000	.771
CPV18	1.000	.808
POP1	1.000	.748
POP2	1.000	.748
POP3	1.000	.741
POP4	1.000	.751
POP5	1.000	.687
POP6	1.000	.733
POP7	1.000	.686
POS1	1.000	.735
POS2	1.000	.799
POS3	1.000	.784
POS4	1.000	.706
POS5	1.000	.803
POS6	1.000	.754

	POS7	1.000	.798
	POS8	1.000	.814
	POT1	1.000	.672
	POT2	1.000	.740
	POT3	1.000	.788
	POT4	1.000	.764
	POT5	1.000	.767
	POT6	1.000	.788
	POT7	1.000	.726
	POT8	1.000	.790
	POT9	1.000	.758
	POT10	1.000	.777
	POT11	1.000	.729
	POT12	1.000	.704
	POT13	1.000	.846
	POT14	1.000	.782
	POT15	1.000	.776
	PU1	1.000	.775
	PU2	1.000	.794
	PU3	1.000	.716
	PU4	1.000	.756
	PU5	1.000	.761
	PU6	1.000	.754
	PU7	1.000	.770
	ESQ1	1.000	.767
	ESQ2	1.000	.732
	ESQ3	1.000	.805
	ESQ4	1.000	.735
	ESQ5	1.000	.733
	ESQ6	1.000	.808
	ESQ7	1.000	.815
	ESQ8	1.000	.802
	ESQ9	1.000	.765
	ESQ10	1.000	.769
	ESQ11	1.000	.712
	ESQ12	1.000	.734
	ESQ13	1.000	.783
	ESQ14	1.000	.728
	ESQ15	1.000	.683
	ESQ16	1.000	.869
	ESQ17	1.000	.789
	ESQ18	1.000	.770
	ESQ19	1.000	.763
	ESQ20	1.000	.756
	SDP9	1.000	.749
	SDP10	1.000	.759
	SDP11	1.000	.692

	SDP12	1.000	.722
	Extraction Method: Principal Component Analysis.		

Total Variance Explained for Influences of CRM Performance

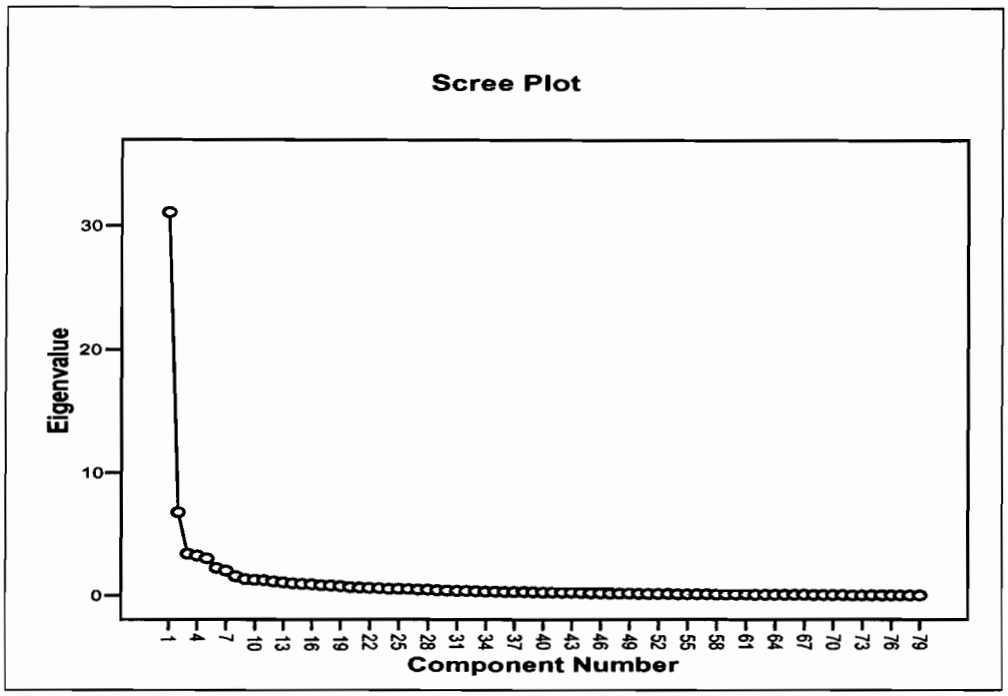
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	31.085	39.348	39.348	31.085	39.348	39.348
2	6.793	8.599	47.947	6.793	8.599	47.947
3	3.409	4.315	52.261	3.409	4.315	52.261
4	3.265	4.133	56.394	3.265	4.133	56.394
5	3.042	3.850	60.245	3.042	3.850	60.245
6	2.273	2.878	63.122	2.273	2.878	63.122
7	2.050	2.595	65.717	2.050	2.595	65.717
8	1.587	2.009	67.726	1.587	2.009	67.726
9	1.344	1.701	69.427	1.344	1.701	69.427
10	1.294	1.638	71.066	1.294	1.638	71.066
11	1.263	1.598	72.664	1.263	1.598	72.664
12	1.148	1.453	74.118	1.148	1.453	74.118
13	1.074	1.360	75.478	1.074	1.360	75.478
14	.992	1.256	76.734			
15	.953	1.206	77.940			
16	.911	1.153	79.094			
17	.852	1.079	80.172			
18	.832	1.053	81.225			
19	.773	.978	82.204			
20	.678	.858	83.062			
21	.653	.827	83.889			
22	.635	.803	84.692			
23	.615	.778	85.470			
24	.556	.703	86.173			
25	.554	.701	86.875			
26	.542	.686	87.560			
27	.498	.631	88.191			
28	.490	.621	88.812			
29	.447	.565	89.377			
30	.432	.547	89.925			
31	.409	.517	90.442			
32	.397	.502	90.944			
33	.379	.480	91.424			
34	.355	.449	91.873			

35	.345	.437	92.310			
36	.323	.409	92.719			
37	.317	.402	93.121			
38	.307	.389	93.511			
39	.295	.373	93.884			
40	.279	.353	94.237			
41	.266	.336	94.573			
42	.256	.324	94.897			
43	.253	.321	95.218			
44	.241	.305	95.523			
45	.222	.281	95.804			
46	.216	.273	96.078			
47	.200	.253	96.331			
48	.196	.248	96.579			
49	.175	.222	96.800			
50	.169	.214	97.015			
51	.161	.204	97.219			
52	.159	.202	97.420			
53	.151	.191	97.611			
54	.143	.181	97.793			
55	.138	.175	97.968			
56	.125	.158	98.126			
57	.121	.154	98.279			
58	.118	.149	98.428			
59	.109	.138	98.567			
60	.106	.134	98.701			
61	.098	.124	98.825			
62	.092	.116	98.941			
63	.087	.111	99.051			
64	.081	.102	99.154			
65	.076	.096	99.250			
66	.072	.091	99.341			
67	.071	.090	99.431			
68	.068	.086	99.517			
69	.064	.081	99.597			
70	.055	.070	99.667			
71	.044	.055	99.723			
72	.038	.048	99.771			
73	.035	.044	99.815			
74	.034	.043	99.858			
75	.029	.037	99.895			
76	.025	.032	99.927			
77	.024	.030	99.957			
78	.017	.022	99.979			
79	.017	.021	100.000			

Extraction Method: Principal Component Analysis.

Scree Plot for Influence Factors



Rotated Component Matrix (a)

Rotated Component Matrix(a)

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
POT5	**.834**												
POT2	**.770**												
POT3	**.770**												
PU1	**.769**												
POT4	**.736**												
PU7	**.731**												
POT8	**.770**												
POT6	**.764**												
PU6	**.742**												
POT15	.691		.453				.385						
POT1	.681			.456				.546					
ESQ13	.663					.334				.417			
PU5	.644				.453		.531					.421	

ESQ12	.636		.345			.323							
POT7	.620	.350			.323								
POT9	.578	.366			.356								
ESQ10	.574	.474						.542					
ESQ9	.567	.564											
ESQ14	.557	.371		.344						.354			
SDP12	.540	.337											
ESQ7	.516	.512										.328	
POS2	.514				.420					.461			
POT10	.452				.344		.315	.303	.304				
ESQ4		**.832**											
ESQ6		**.773**											
ESQ3	.311	**.776**											
ESQ5		**.803**											
ESQ2		**.672**					.418						
ESQ11		.543			.323								
ESQ20	.390	.510								.399			
ESQ8	.494	.495	.318									.370	
ESQ18	.395	.492							.313	.387			
ESQ1	.329	.468					.440						
CPV5	.373		**.755**										
CPV6			**.724**										
CPV8	.430		**.754**										
CPV7	.421		**.671**										
CPV11			**.626**	.342									
CPV9	.402		**.658**										
CPV10	.317		**.649**										
CPV2			**.551**										.361
CPV12			**.560**		.371								
CPV1			.529					.358					.387
CPV3	.312		.521		.311								
CPV4			.490			.325				.305			
POP6				**.783**									
POP4				**.758**									
PU4	.339			**.653**									
POP7				**.667**									-.337
PU2	.391			**.597**									
POP3				.544				.510					
PU3	.481			.520									
POS7					**.850**								
POS8					**.836**								
POS6				.327	**.757**								
POS5				.396	**.697**								
POS3				.479	.490								
SDP11	.303	.413			.433				.304				
POS4				.347	.408								
CPV13						.811							

CPV16						.772							
CPV14						.726							
CPV17						.721							
CPV18	.401					.699							
CPV15			.349			.604						.306	
POT13							**.722**						
POT12					.350		**.629**						
POT14	.426						**.552**						
POT11	.337	.333					.591						
POP1	.610							.666					
POP2					.600			.603					
POP5	.524							.535					
POS1				.419				.455					
ESQ16				.732					.774				
ESQ17	.599								.605				
ESQ15				.352		.383			.500				
ESQ19	.427	.466								.497			
SDP10	.440										.568		
SDP9	.491										.492		

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 24 iterations.

Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	14.884	18.840	18.840
2	7.276	9.210	28.051
3	6.736	8.527	36.578
4	5.447	6.895	43.473
5	5.270	6.671	50.143
6	4.866	6.160	56.303
7	3.295	4.171	60.475
8	3.053	3.864	64.339
9	2.539	3.214	67.553
10	1.968	2.491	70.044
11	1.507	1.907	71.951
12	1.497	1.895	73.846
13	1.289	1.632	75.478

Extraction Method: Principal Component Analysis.

Component Transformation Matrix

Component	1	2	3	4	5	6	7	8	9	10	11	12	13
1	.625	.384	.364	.232	.285	.249	.212	.181	.166	.137	.064	.061	.034
2	-.516	-.267	.152	.569	.368	.383	.114	.096	.048	-.052	-.079	.003	.013
3	-.160	.573	-.529	.308	-.094	-.010	.350	-.325	.148	-.073	.055	-.022	-.059
4	-.216	.231	.518	-.176	-.415	.441	.046	-.441	-.175	.012	-.010	.047	.065
5	-.436	.409	.247	-.423	.488	-.269	-.001	.065	.201	.134	-.031	-.168	.000
6	.091	-.128	-.361	-.431	.092	.642	.010	.022	.357	.023	-.199	-.261	-.047
7	-.146	.319	-.044	.159	-.253	.142	-.689	.335	.331	-.061	.128	.178	.131
8	.011	.249	.064	.034	-.141	.001	.065	.402	-.314	-.525	-.479	.374	.053
9	.107	-.153	.276	.188	-.133	.255	.111	-.333	.592	-.157	-.314	.183	-.376
10	.159	.064	-.107	.152	.280	-.038	-.391	.422	-.183	.127	-.440	-.120	.518
11	-.063	.070	-.036	.185	-.225	.006	-.080	.170	-.178	.762	-.161	-.360	-.320
12	-.021	-.132	.099	.087	-.241	-.110	.196	.080	.242	.018	.332	-.588	.579
13	.103	.049	-.007	.067	.259	.119	-.358	-.237	-.260	-.231	.522	-.449	-.349

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Anti-image Matrices - Influence Factors

	CPV1	CPV2	CPV3	CPV4	CPV5	CPV6
CPV1	**0.8921**	-0.46576	-0.06908	-0.11983	-0.30254	-0.02427
CPV2		**0.899656**	-0.19191	-0.10757	-0.00716	-0.00897
CPV3			**0.918128**	-0.17445	0.020178	-0.1208
CPV4				**0.842474**	0.021149	-0.15648
CPV5					**0.817381**	-0.36614
CPV6						**0.853621**

	CPV7	CPV8	CPV9	CPV10	CPV11	CPV12
CPV7	**0.841992**	-0.26567	0.080533	-0.33036	0.059797	-0.06404
CPV8		**0.913695**	-0.30899	-0.14462	-0.07978	-0.13236
CPV9			**0.935025**	-0.07079	-0.01343	0.08426
CPV10				**0.893457**	-0.10768	-0.15484

CPV11					**0.872593**	-0.48031
CPV12						**0.892892**
	CPV13	CPV14	CPV15	CPV16	CPV17	CPV18
CPV13	**0.804695**	-0.2936	0.023272	-0.21358	-0.10799	-0.14057
CPV14		**0.854818**	-0.39709	0.117442	-0.19147	-0.09012
CPV15			**0.840242**	-0.35382	-0.0546	-0.21274
CPV16				**0.876578**	-0.38654	-0.0301
CPV17					**0.89426**	-0.24546
CPV18						**0.916309**
	POP1	POP2	POP3	POP4	POP5	POP6
POP1	**0.806099**	-0.45709	-0.04817	-0.08939	0.251443	-0.10726
POP2		**0.87451**	-0.15377	-0.14904	-0.28123	0.056786
POP3			**0.881788**	-0.16593	-0.1829	0.028444
POP4				**0.837546**	-0.08758	-0.25005
POP5					**0.856505**	-0.41172
POP6						**0.733802**
	POP7	POS1	POS2	POS3	POS4	POS5
POP7	**0.810901**	0.166455	0.017559	-0.17965	-0.16611	-0.05633
POS1		**0.859326**	-0.47378	-0.03693	-0.11849	-0.10392
POS2			**0.903031**	-0.40374	-0.07731	0.043119
POS3				**0.916741**	0.038337	-0.22735
POS4					**0.89241**	-0.22542
POS5						**0.878952**
	POS6	POS7	POS8	POT1	POT2	POT3
POS6	**0.87575**	-0.31939	-0.08125	0.01563	0.068895	5.59E-05
POS7		**0.878481**	-0.5402	-0.0812	-0.10312	0.002606
POS8			**0.888**	0.018094	0.048498	0.079624
POT1				**0.918225**	-0.24608	-0.23853
POT2					**0.949124**	-0.13378
POT3						**0.927325**
	POT4	POT5	POT6	POT7	POT8	POT9
POT4	**0.862374**	-0.48956	-0.03767	0.142941	0.010405	-0.16925
POT5		**0.918726**	-0.19146	-0.05604	-0.04155	0.10943
POT6			**0.92852**	-0.28249	-0.24635	0.019562
POT7				**0.844668**	-0.29046	0.022388
POT8					**0.907451**	-0.28095
POT9						**0.905661**
	POT10	POT11	POT12	POT13	POT14	POT15
POT10	**0.901808**	-0.2603	-0.20227	0.216852	-0.17389	0.025645
POT11		**0.854967**	-0.37743	-0.11181	-0.01701	-0.09391
POT12			**0.849696**	-0.17126	0.187871	0.047546
POT13				**0.806146**	-0.72292	-0.24261
POT14					**0.869476**	-0.1547
POT15						**0.918387**
	PU1	PU2	PU3	PU4	PU5	PU6

PU1	**0.912027**	0.041518	-0.10311	-0.03879	-0.17644	0.154629
PU2		**0.901348**	-0.37996	-0.1225	-0.0771	-0.09808
PU3			**0.91392**	-0.49086	0.304413	-0.10737
PU4				**0.868126**	-0.16556	-0.20716
PU5					**0.92357**	-0.36282
PU6						**0.843967**
	PU7	ESQ1	ESQ2	ESQ3	ESQ4	ESQ5
PU7	**0.844814**	-0.34059	0.323705	-0.11831	0.172574	0.115925
ESQ1		**0.891078**	-0.70973	0.096322	-0.14119	-0.14997
ESQ2			**0.851651**	-0.37937	0.137906	0.0771
ESQ3				**0.938104**	-0.28448	0.066049
ESQ4					**0.890761**	-0.41738
ESQ5						**0.870127**
	ESQ6	ESQ7	ESQ8	ESQ9	ESQ10	ESQ11
ESQ6	**0.821399**	-0.36895	0.055765	-0.36229	-0.06646	0.042179
ESQ7		**0.923427**	-0.33071	-0.00765	0.078957	0.041205
ESQ8			**0.907661**	-0.20557	-0.1903	-0.06387
ESQ9				**0.919588**	-0.25464	-0.05619
ESQ10					**0.941151**	-0.1725
ESQ11						**0.833621**
	ESQ12	ESQ13	ESQ14	ESQ15	ESQ16	ESQ17
ESQ12	**0.829813**	-0.30067	0.333956	-0.18807	-0.04517	-0.01918
ESQ13		**0.905633**	-0.53051	0.031219	-0.02588	0.176314
ESQ14			**0.868967**	-0.22874	-0.08798	0.002092
ESQ15				**0.895057**	-0.32334	-0.13304
ESQ16					**0.829002**	-0.53995
ESQ17						**0.891181**
	ESQ18	ESQ19	ESQ20			
ESQ18	**0.88811**	0.04604	-0.18346			
ESQ19		**0.843231**	-0.77292			
ESQ20			**0.850253**			

APPENDIX D
CRONBACH ALPHA RELIABILITY TEST RESULT

Customer Relationship Management Performance	**Reliability Statistics** Cronbach's Alpha: .944 | N of Items: 9
Perceived Trust	**Reliability Statistics** Cronbach's Alpha: .963 | N of Items: 9
Perceived Emotional Value	**Reliability Statistics** Cronbach's Alpha: .913 | N of Items: 9
Perceived Privacy	**Reliability Statistics** Cronbach's Alpha: .875 | N of Items: 5
Perceived Security	**Reliability Statistics** Cronbach's Alpha: .912 | N of Items: 6
Perceived Economic Value	**Reliability Statistics** Cronbach's Alpha: .906 | N of Items: 5
Perceived Usefulness	**Reliability Statistics**

	Cronbach's Alpha: .841 | N of Items: 3
Perceived Electronic Service Quality	**Reliability Statistics** Cronbach's Alpha: .906 | N of Items: 5

APPENDIX E
PEARSON CORRELATIONS OF STUDY VARIABLES

	CRMP	POT	POSQ	PEmoV	POP	POS	PEcoV	PU
CRMP	1							
POT	.67**	1						
POSQ	.51**	.64**	1					
PEmoV	.56**	.63**	.50**	1				
POP	.50**	.42**	.39**	.45**	1			
POS	.46**	.40**	.35**	.56**	.60**	1		
PEcoV	.57**	.44**	.37**	.56**	.53**	.46**	1	
PU	.61**	.53**	.52**	.48**	.53**	.53**	.50**	1

Note. *p<.05; **p<.01; CRMP=Customer relationship management performance; POT=Perceived trust; POSQ=Electronic service quality; PEmoV=Perceived emotional value; POP=Perceived privacy; POS=Perceived security; PEcoV=Perceived economic value; PU=Perceived usefulness

APPENDIX F
REGRESSION ANALYSIS

Regression Analysis: Influences of CRM Performance

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.769(a)	.592	.581	.40399

a Predictors: (Constant), Influences Variables
b Dependent Variable: CRMPerformance

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.113	.190		.595	.552		
	Perc_Trust	.452	.067	.408	6.749	.000	.375	2.670
	Perc_OnlineSQ	.021	.052	.020	.400	.690	.537	1.863
	Perc_SocialV	.046	.060	.043	.774	.440	.436	2.295
	Perc_OnlinePriv	.085	.053	.083	1.584	.114	.496	2.017
	Perc_OnlineSec	.036	.056	.036	.645	.519	.433	2.310
	Perc_EconVal	.211	.049	.213	4.318	.000	.564	1.772
	Perc_Usefulness	.201	.052	.204	3.864	.000	.493	2.030

a Dependent Variable: CRMPerformance

APPENDIX G
ANOVA FOR DEMOGRAPHIC FACTORS

ANOVA Test Result for Demographic Factors

(a) Age Factor - Descriptive

CRMPerformance

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
< or = 30	106	3.8637	.63473	.06165	3.7415	3.9860	2.44	5.00
31-35	60	3.8611	.58994	.07616	3.7087	4.0135	3.00	5.00
36-40	46	3.9469	.63234	.09323	3.7591	4.1346	2.67	5.00
41-45	62	4.0627	.58158	.07386	3.9150	4.2104	3.00	5.00
46-50	23	3.9372	.56440	.11769	3.6931	4.1813	3.00	4.78
Above 50	10	3.6667	.95438	.30180	2.9839	4.3494	2.00	4.67
Total	307	3.9149	.62400	.03561	3.8449	3.9850	2.00	5.00

CRMPerformance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.481	5	.496	1.280	.272
Within Groups	116.669	301	.388		
Total	119.150	306			

Multiple Comparisons

(b) Working Experience Factor - **Descriptives**

CRMPerformance

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1-4 yrs	92	3.8623	.63034	.06572	3.7318	3.9929	2.44	5.00
4-7 yrs	47	3.9716	.51571	.07522	3.8202	4.1230	3.00	5.00
7-10 yrs	25	3.4978	.63999	.12800	3.2336	3.7620	2.67	4.89
More than 10 yrs	143	4.0031	.62269	.05207	3.9002	4.1060	2.00	5.00
Total	307	3.9149	.62400	.03561	3.8449	3.9850	2.00	5.00

ANOVA

CRMPerformance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.868	3	1.956	5.232	.002
Within Groups	113.282	303	.374		
Total	119.150	306			

Multiple Comparisons

Dependent Variable: CRMPerformance
Tukey HSD

(I) Work_Exp	(J) Work_Exp	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1-4 yrs	4-7 yrs	-.10931	.10963	.751	-.3925	.1739
	7-10 yrs	.36454(*)	.13791	.043	.0083	.7208
	More than 10 yrs	-.14079	.08172	.314	-.3519	.0703
4-7 yrs	1-4 yrs	.10931	.10963	.751	-.1739	.3925
	7-10 yrs	.47385(*)	.15136	.010	.0828	.8649
	More than 10 yrs	-.03148	.10281	.990	-.2971	.2341
7-10 yrs	1-4 yrs	-.36454(*)	.13791	.043	-.7208	-.0083
	4-7 yrs	-.47385(*)	.15136	.010	-.8649	-.0828
	More than 10 yrs	-.50533(*)	.13255	.001	-.8477	-.1629
More than 10 yrs	1-4 yrs	.14079	.08172	.314	-.0703	.3519
	4-7 yrs	.03148	.10281	.990	-.2341	.2971
	7-10 yrs	.50533(*)	.13255	.001	.1629	.8477

* The mean difference is significant at the .05 level.

(c) Annual Salary Factor - **Descriptives**

CRMPerformance

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximu
					Lower Bound	Upper Bound		
25,000-35,000	78	3.8647	.58511	.06625	3.7327	3.9966	2.67	5.00
35,000-45,000	64	4.0000	.59259	.07407	3.8520	4.1480	2.78	5.00
45,000-55,000	47	4.1820	.47561	.06938	4.0424	4.3217	3.44	5.00
Above 55,000	40	3.7778	.71346	.11281	3.5496	4.0060	2.00	5.00
Total	307	3.9149	.62400	.03561	3.8449	3.9850	2.00	5.00

CRMPerformance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.711	4	1.428	3.801	.005
Within Groups	113.438	302	.376		
Total	119.150	306			

ANOVA

Multiple Comparisons

Dependent Variable: CRMPerformance
Tukey HSD

(I) Ann_Sal	(J) Ann_Sal	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
25,000-35,000	Less than 25,000	.05983	.09814	.974	-.2095	.3292
	35,000-45,000	-.13533	.10337	.686	-.4190	.1483
	45,000-55,000	-.31736(*)	.11317	.042	-.6279	-.0068
	Above 55,000	.08689	.11919	.950	-.2402	.4140
35,000-45,000	Less than 25,000	.19516	.10337	.326	-.0885	.4788
	25,000-35,000	.13533	.10337	.686	-.1483	.4190
	45,000-55,000	-.18203	.11773	.533	-.5051	.1411
	Above 55,000	.22222	.12353	.376	-.1168	.5612
45,000-55,000	Less than 25,000	.37719(*)	.11317	.009	.0666	.6878
	25,000-35,000	.31736(*)	.11317	.042	.0068	.6279
	35,000-45,000	.18203	.11773	.533	-.1411	.5051
	Above 55,000	.40426(*)	.13184	.020	.0424	.7661
Above 55,000	Less than 25,000	-.02707	.11919	.999	-.3542	.3000
	25,000-35,000	-.08689	.11919	.950	-.4140	.2402
	35,000-45,000	-.22222	.12353	.376	-.5612	.1168
	45,000-55,000	-.40426(*)	.13184	.020	-.7661	-.0424

* The mean difference is significant at the .05 level.

(d) E-Banking Experience - **Descriptives**

CRMPerformance

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximu
					Lower Bound	Upper Bound		
Less or = 1 yr	39	3.6980	.77859	.12467	3.4456	3.9504	2.44	5.00
2-4 yrs	87	4.0728	.49454	.05302	3.9674	4.1782	3.00	5.00
5-7 yrs	45	3.7333	.62244	.09279	3.5463	3.9203	2.67	5.00
8-10 yrs	27	3.7119	.63550	.12230	3.4605	3.9633	3.00	5.00
More than 10 yrs	109	3.9918	.61078	.05850	3.8759	4.1078	2.00	5.00
Total	307	3.9149	.62400	.03561	3.8449	3.9850	2.00	5.00

ANOVA

CRMPerformance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.245	4	1.811	4.888	.001
Within Groups	111.905	302	.371		
Total	119.150	306			

Multiple Comparisons

Dependent Variable: CRMPerformance
Tukey HSD

(I) E_bank_Ex	(J) E_bank_Ex	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Less or = 1 yr	2-4 yrs	-.37479(*)	.11730	.013	-.6967	-.0529
	5-7 yrs	-.03533	.13317	.999	-.4008	.3301
	8-10 yrs	-.01393	.15240	1.000	-.4322	.4043
	More than 10 yrs	-.29384	.11358	.075	-.6055	.0179
2-4 yrs	Less or = 1 yr	.37479(*)	.11730	.013	.0529	.6967
	5-7 yrs	.33946(*)	.11177	.022	.0327	.6462
	8-10 yrs	.36086	.13410	.058	-.0072	.7289
	More than 10 yrs	.08095	.08751	.887	-.1592	.3211
5-7 yrs	Less or = 1 yr	.03533	.13317	.999	-.3301	.4008
	2-4 yrs	-.33946(*)	.11177	.022	-.6462	-.0327
	8-10 yrs	.02140	.14818	1.000	-.3853	.4281
	More than 10 yrs	-.25851	.10786	.119	-.5545	.0375
8-10 yrs	Less or = 1 yr	.01393	.15240	1.000	-.4043	.4322
	2-4 yrs	-.36086	.13410	.058	-.7289	.0072
	5-7 yrs	-.02140	.14818	1.000	-.4281	.3853
	More than 10	-.27991	.13086	.206	-.6390	.0792

	yrs					
More than 10 yrs	Less or = 1 yr	.29384	.11358	.075	-.0179	.6055
	2-4 yrs	-.08095	.08751	.887	-.3211	.1592
	5-7 yrs	.25851	.10786	.119	-.0375	.5545
	8-10 yrs	.27991	.13086	.206	-.0792	.6390

* The mean difference is significant at the .05 level.

(e) Race Factor - **Descriptives**

CRMPerformance

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Malay	288	3.9047	.63022	.03714	3.8316	3.9778	2.00	5.00
Chinese	6	3.9630	.37625	.15360	3.5681	4.3578	3.22	4.22
Indian	13	4.1197	.56740	.15737	3.7768	4.4625	3.00	4.67
Total	307	3.9149	.62400	.03561	3.8449	3.9850	2.00	5.00

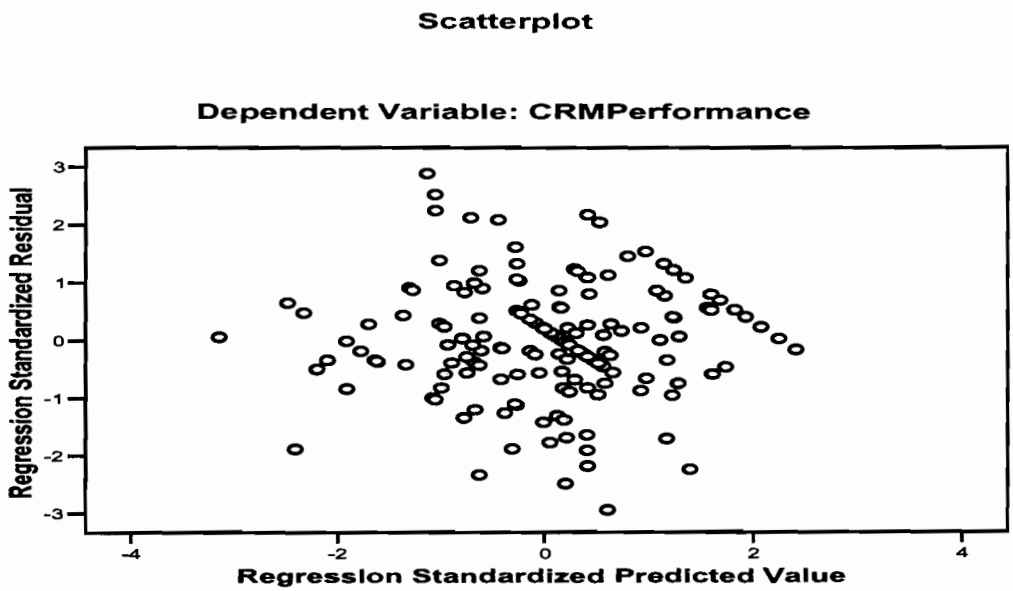
ANOVA

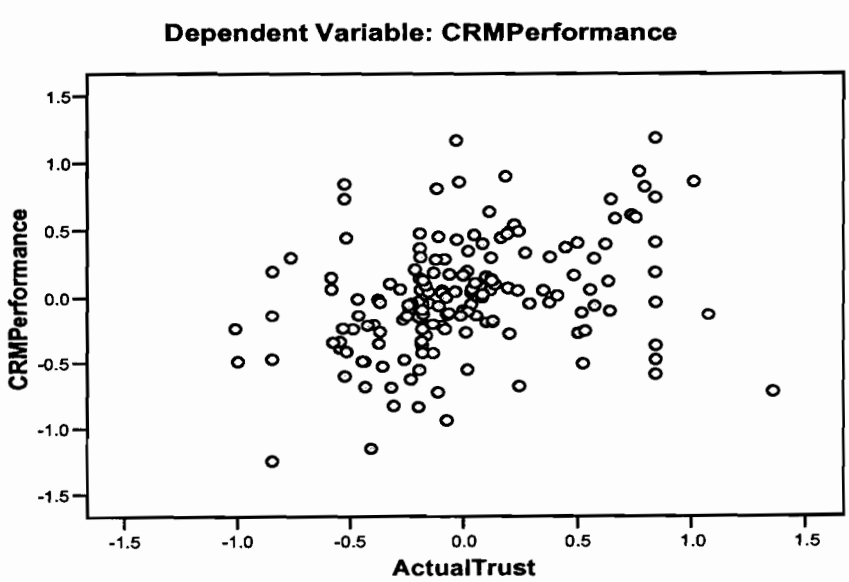
CRMPerformance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.589	2	.294	.755	.471
Within Groups	118.561	304	.390		
Total	119.150	306			

APPENDIX H
SCATTER AND PARTIAL PLOTS

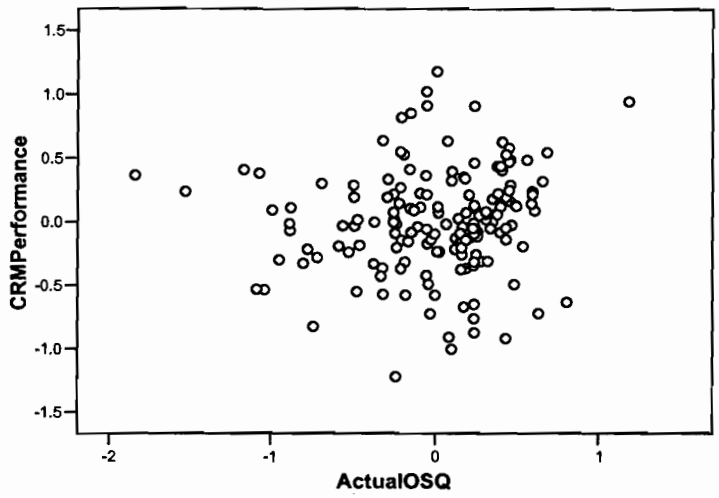
Relationship between Customer Relationship Management Performance (DV) and Influence Variables (IV)





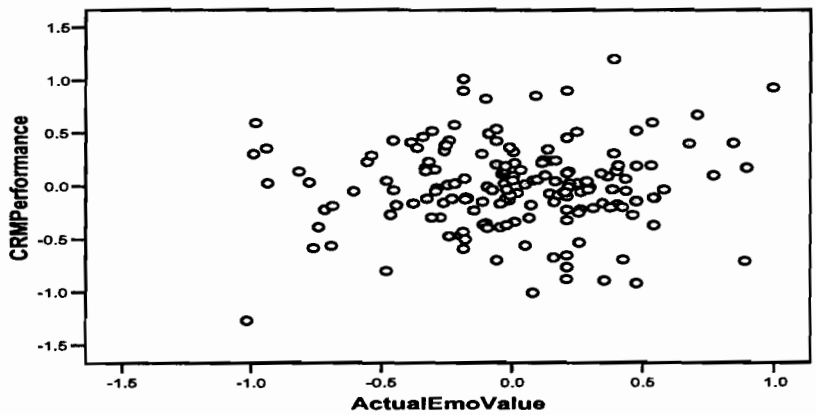
Partial Regression Plot

Dependent Variable: CRMPerformance



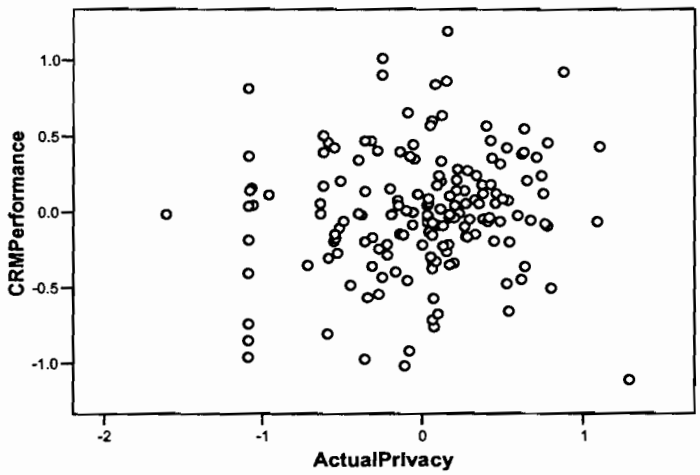
Partial Regression Plot

Dependent Variable: CRMPerformance



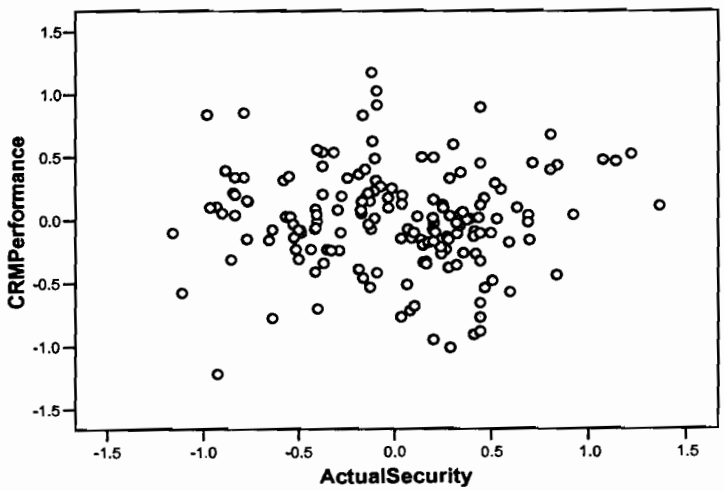
Partial Regression Plot

Dependent Variable: CRMPerformance

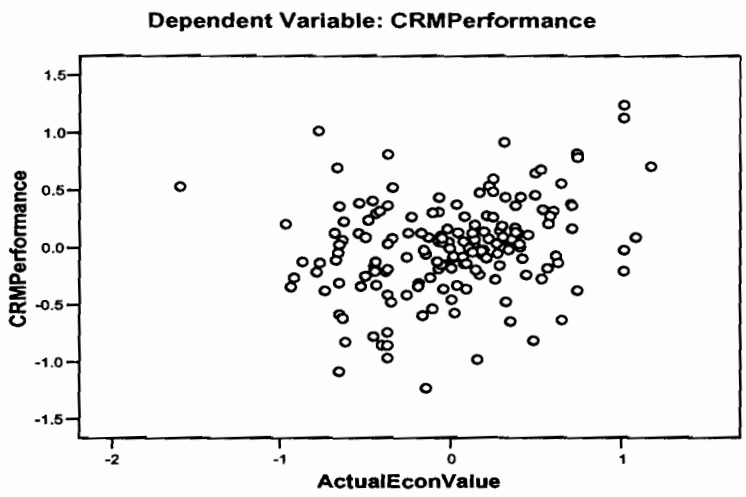


Partial Regression Plot

Dependent Variable: CRMPerformance



Partial Regression Plot



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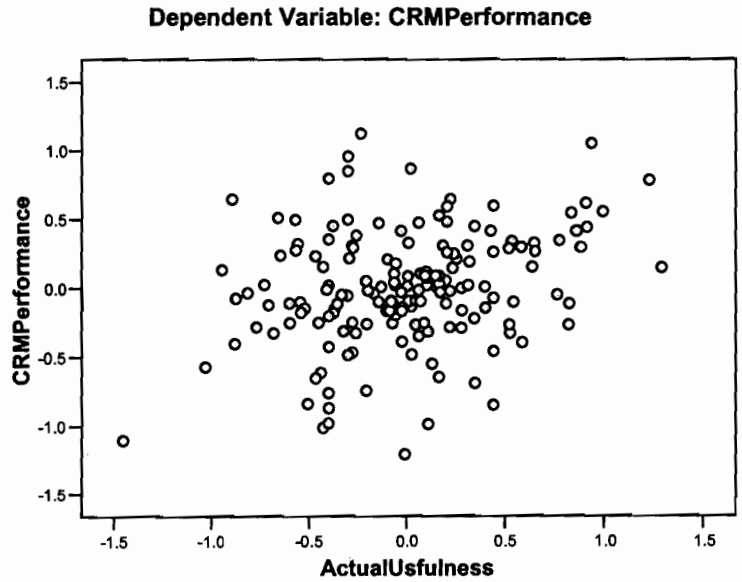

APPENDIX I
NORMAL PROBABILITY PLOT

Relationship between Customer Relationship Management Performance (DV) and Influence Variables (IV)

Normal P-P Plot of Regression Standardized Residual